The Builder.

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South Wales University College Competition.

ANOTHER great building is projected for Cathays Park, Cardiff, the district in which the new Municipal Buildings and Law Courts are now rising. This is the proposed University College of South Wales and Monmouthshire, for which four London architects, Mr. Caröe, Mr. Champneys, Mr. Belcher, and Mr. W. C. Marshall, have been invited to compete, and Sir Rowand Anderson has acted as Assessor. The competition has resulted in the selection of Mr. Caröe's design, and the four sets of drawings have been on view in the present Cardiff Town Hall during this week. The selected architect is to be employed, of course, to carry out the work, and no premium is offered in his case; he has what the French call the *prix d'exécution*, which of course is a very important commission, and as the scale has been limited to 1-16 in. to the foot and the terms encourage the avoidance of elaborate drawings ("the plans may be in ink or pencil"), this is not perhaps a cause of complaint in the present case, though we do not approve of the system of paying the successful competitor nothing for his competition drawings, as they always mean a great deal of work extra to the preparation of working drawings. The three non-successful competitors receive 150*l.* each, and "in the improbable event of the services of the successful architect not being required" in carrying out the building within three years, he will receive 200*l.* in compensation.

The College is essentially a technical one. The scheme includes, first, Arts Department, Normal Department, Library, General Offices, and Research Laboratory, which portion of the buildings is to be proceeded with at once, if the carrying out of the remainder has to be deferred. This is not much more than a quarter of the whole, since it is estimated at 60,000*l.*, the expenditure on the whole being estimated at 200,000*l.* Then there are Physics Department (to be near the Research Laboratory); Botany, Zoology, Geology, and Mining (to be grouped together in order that they may have a common museum); Chemistry and Metallurgy Departments (under one Professor and therefore to be contiguous); Engineering Department; Medical School, including Anatomy, Physiology, and Materia Medica; Public Health Department; and a large Hall to seat 1,000 persons, to be put "where most convenient."

The detailed requirements of rooms for the various departments we cannot attempt to give here, though some of them may have to be referred to in passing. Two or three special requirements should be mentioned however. The Library is a memorial building, presented by a certain donor at a cost of 10,000*l.*, which comes off the 60,000*l.*, though it is hinted that more would very likely be forthcoming, and that the competitors need not design it with a strict view to a 10,000*l.* limit. This memorial character of the Library of course includes the necessity, or desirability, of treating it architecturally as a defined feature. The Research Laboratory must in any case be at the north-west corner of the building, to be as far as possible from the railway on the east. The west side faces the park, and is therefore the quiet side, a circumstance which has obviously influenced all the plans more or less. A memorial statue to the late Principal is to be included as a feature, and it is suggested that it should be so placed as to be within the observation of those of the public who would have access to the building. One more special condition that should be mentioned is that the women's department of the College should be entirely self-contained, all their rooms being placed together, with a separate entrance if possible, though with means of communicating with the rest of the building internally.

It will be at once recognised that to arrange so large a building with regard to all these several requirements, along with many other minor ones which further complicate the plan, and to combine this with architectural symmetry of treatment, presents no easy problem.

The principal façade of the building will be the west one towards Cathays Park, and Mr. Caröe's plan places the main entrance in the centre of this front. The vestibule, between the Principal's and the hall porter's rooms (which are specified to be near together) leads into a large entrance hall on the axis of the building, at the top of which an alcove or apse two or three steps up leads to the passage giving access to the professors' and lady lecturers' rooms, which form a small department of their own. The central passage between these would be very deficient in light as planned, and the entrances to the professors' and the ladies' rooms, on opposite sides, would have been more suitably arranged with each a small vestibule, instead of the doors opening straight out of the passage. The proposed statue is arranged for on the top of the steps up to the alcove, in front of the door leading to the professors' and ladies' passage; as far as placing the statue is concerned, the position is a very good one, though it seems to mask the door into the passage rather awkwardly. The general plan of the building is that of a long block facing west, with return blocks eastward at each end, the great hall forming a separate block running north and south, on the east side of the ground. Corridors run north and south from the vestibule, along the west block, and are returned along the two return blocks. In each of the re-entering angles is a pretty large open court, partially occupied by a circular latrine block; closets all round the outer circle, lighted from a flat roof; lavatories in the inner circle, lighted from a glass dome. This architectural treatment of the latrines is one of the best points in the plan. As the women's department is all

arranged in the front block to left of the main entrance, the latrine pavilion on the left becomes theirs, and that on the right is for the men. The common-room for women and the common-room for men, which form an important item in the plan, and which are required to be in a quiet position, are symmetrically placed on either side of the centre and lighted partly from the inner court, partly from small light areas between them and the staircase hall. We should fear they would not be as well lighted as might be wished, being wide and deep rooms, for though there are plenty of windows, those on one face open into a small area and are partly under a bridge, and those towards the inner court look into an arcaded loggia which seems introduced mainly for exterior architectural effect. It does make a good feature towards the quadrangle, but in a practical sense it would be better thrown into the rooms.

The general arrangement and grouping of the various departments, which it would be impossible to follow out or describe in detail without reference to a plan, seems in all important particulars to comply with and fulfil the conditions laid down in the instructions to architects. As a matter of detail, the balance-room, which opens direct out of the corridor leading to the chemistry theatre, seems not quite cut off sufficiently from the chance of disturbance by movement, though it may be said perhaps, that it would not probably be in use at the same time that students were on their way to the theatre. On the upper floor the memorial library occupies the space over the hall and professors' and ladies' rooms before mentioned, forming the upper portion of the axial block projecting into the quadrangle, except that on the west front the first floor at this part is occupied by the council-room, placed across the axis and lighted towards the park. This is a good position in every way, as the park is the quiet side, the central position is suitable, and there is a good look-out from the windows. The upper portion of this central block, with the exception of the Council-room, becomes therefore the Memorial Library, and in its projection towards the quadrangle could be easily distinguished as such. The Library has a semi-circular ceiling into which semi-circular clearstory windows project; there are besides skylights in the ceiling. Nevertheless, we doubt if the book-cases at right angles to the wall, forming a series of bays, would be quite adequately lighted. To look up the titles of books you want a light rather near them, not a distant one, and we do not see why there should not be small lights in the outer walls in each bay. The great hall forms the first floor of the block of building on the east side, and is separated from the wings by an open space and gates on each side. The great hall and the Library blocks, of somewhere similar character and proportion but varied in detail, standing at right angles to each other at opposite sides of the quadrangle, each with its lantern on the roof, would combine in a picturesque effect. The quadrangle is laid out in lawns with walks between and a fountain in the centre; this was perhaps put in rather hurriedly, but it should be reduced to a more complete and symmetrical design; a *parterre* with plots which do not answer to each other and which leave irregular shapeless bits of grass-plot cut off at the angles, is more like a surveyor's than an architect's gardening.

What should be the architectural expression of a Technical University? One of the competitors, whose design we shall refer to subsequently as No. 3, seems to have aimed at repeating the very plain quiet domestic gothic of late type, to be found in some of the older colleges of Cambridge. One can hardly think this æsthetically defensible. A Technical College for the study of subjects so essentially modern as the latest developments of chemistry, biology, physics, engineering, etc., can hardly be regarded as on the same footing or of the same character as an anciently-founded University for the study of *literæ humaniores*; and the *genius loci* of Cambridge is not the *genius loci* of Cardiff. We think we can see that Mr. Caröe, as well as one of the other competitors, has been partly influenced in his design (and if so, quite rightly) by a wish to keep the general lines of the building more or less in harmony with those of the Municipal Buildings and Law Courts which will be its near neighbours in the same park, and of which the outer walls are already nearly completed. The design is a free classic, with a rusticated ground story with for the most part arched openings, and mullioned windows above between flat piers. Over the Council Chamber front (or side) is a pediment, with a sculptured frieze below it, between the order which divides the windows. The end of the Library block towards the quadrangle is differently treated, with a segmental gable and square turrets at the angles ending in little decorative pavilions; over the principal central window there is a niche for a statue, perhaps of the donor; an inscription escutcheon might have found place on this elevation. On the whole, while it will be a fine building, we should say that a little too much of the Town Hall architectural element has got into it (we do not mean of the Cardiff Town Hall in particular, but of the Town Hall element in the abstract); that, for a college, it would bear pruning down and simplifying into greater severity of style; and it has some features which are architecturally redundant. For instance, on the west elevation, the small intermediate pavilions, two on each side, between the centre and the wings, do not arise out of anything in the plan; they are merely needless projections in some of the rooms, and therefore are at variance with the idea of architectural unity between plan and design. The exterior design would be better without them, and without some of the ornament. The north elevation, with its long row of rusticated arched windows below and mullioned windows above, is really the most satisfying portion of the exterior, from its breadth and simplicity of treatment.

We should add that Mr. Caröe's whole set of drawings show that great pains and consideration have been given to the work, and they are more elaborated than those of any other of the competitors.

The other sets of plans were exhibited without either name or number. Of the authorship of one we have no doubt, and not much doubt between that of the other two; however, we will not affix names, but consider that with the title on an ornamental cartouche as No. 2; that with the title in plain lettering as No. 3; and that with no titles on the drawings as No. 4. No. 2 is a much more simple and symmetrical plan than Mr. Caröe's. It also is formed round a quadrangle, but with a wide opening on the centre of the east side, and the great hall to the right of that, instead of in the centre. The main entrance is again in the centre of the west side, but opens into a much smaller hall, behind which are the Professors' and Lady Lecturers' rooms, but better planned, and each with its entrance lobby branching from the central passage. The inner quadrangle is perfectly symmetrical in plan, and the library in this case also is pushed out into the quadrangle on the axis line. Its elevation towards the quadrangle is very well treated, with a campanile, with a lantern in two stages, projecting from the centre; turrets at the angles; and a lofty oriel on either side of the campanile. The women's department is concentrated on the left of the west front, much in the same general position as in Mr. Caröe's plan, but their common room is near the north-west angle, and the men's at the south-west angle, both well lighted. The lavatories and cloakrooms connected with each are in the basement, reached by stairs, which on the women's side land below in a very dark angle. The special entrance for male students is at the right re-entering angle of the quadrangle, the women's in the corresponding portion at the left. One of the good points of the plan is the simplicity and directness of the corridor communication. Another is the arrangement of the chemistry department in the south wing, the "quantitative" and "qualitative" rooms arranged symmetrically with the chemistry theatre between them, the balance-room got in on one side of the theatre, and the preparation-room on the other. The Council Room is placed on the first floor at the south-west angle; a more central position would have been better for access. The Arts lecture-rooms are well concentrated over the women's quarter. The engineers' drawing office, on the east wing, faces west; not the best aspect. The wide opening on the east side is occupied by a grille and gates with gate-piers crowned with armillary spheres, and domed side porches, each of which gives access to a loggia running inwards to the quadrangle. This would have a good effect, but it is a piece of rather illogical symmetry, since on the south side the loggia forms a porch to the entrance to the staircase of the Great Hall, etc., while on the north side the only door in it leads merely to the caretaker's house. Positions for two statues are shown, one on each side of the entrance hall, which they rather crowd, as it is not large, and only one statue site was asked for; but this may be a hint that the present Principal also should have his monument when proper time arrived.

The architectural treatment of the exterior is exceedingly broad and simple, and we must confess is more to our liking, on that account, than that of the accepted design, and more suitable to a college.

The ground floor shows a succession of square-headed mullioned windows with rusticated piers between, the upper floor a range of somewhat similar windows with plain piers and niches between. In the centre of the principal façade is a pavilion with a low dome in the rear (over the staircase), and the angles are marked by smaller pavilions. On the centre pavilion some sculptured figures and an armorial escutcheon are sketched in; but otherwise there is little ornament, the whole being marked by severity and restraint of treatment. It would be a fine building and very suitably treated architecturally.

The competition must really have lain between these two, for the other two designs can hardly be considered to be in the running in comparison. In No. 3 the architectural treatment, as already observed, is in the old collegiate style; plain mullioned windows (rather small), in-and-out-gables, and here and there a door flanked with pilasters in the orthodox manner. It is all in good taste, but, as we said, unsuited to the occasion, and presenting almost a deliberate renunciation of anything like impressive architectural character. Without wanting such a building to be ostentatious, surely a little more than this mildly imitative architecture might be attempted with such an opportunity. The plan is not a good one; in some points the arrangements are naïve to a degree. For instance, the Professors' and Lady Lecturers' rooms all open on one side of a corridor running north and south, with intercommunication doors all through between the rooms, and their respective lavatories at the two ends of the passage. The Hall and staircase is a poor and confined one, and yet the staircase cuts a great piece out of the library on the first floor, in a very awkward manner. The Council room is placed on the west front to right of the centre, partially balanced by the museum of antiquities to the left; the one marked by three oriels, the other by two. The general plan is that of a west block with return wings, as in the two designs already described, but the return wings are wider and with central light courts. The two common rooms are well placed facing the inner court, the women's on the left and the men's on the right, with lavatories adjoining lighted from an internal court. The Great Hall forms a square isolated block on the east side of the site, with an entrance on the east side; the staircase and cloakrooms are not well planned, and the hall itself, on the upper floor, is an octagon plan with an octagon dome ceiling; a very bad form, acoustically, for a meeting-room, where speakers are to be heard.

Of No. 4 there is not much to be said. The author has sought for effect in the west entrance by scooping a semi-circular piece out of the plan, with the result of having some very awkward corners inside to deal with. The octagon hall, with a fountain in the middle, is so planned that after the visitor has got into it he has to get out at one side and retrace his steps in the reverse direction to get to the main corridor running along the front block. The women's department is to the right of the centre, but they have to pass the men's Normal Department door to get to it; and to get over the look of this the men's department has a "private corridor" running side by side with the main corridor, and similarly, on the left hand side of the entrance there is a "private administrative passage" alongside of the main corridor. Contiguous parallel corridors are the last resource of bad planning; but the plan generally suggests the work of a student or an amateur. The exterior architectural design is an exceedingly simple and cold classic, which however might not necessarily appear so bald and uninteresting in the actual carrying out as it does in the stiff and formal drawing. Something might be made of it in this sense, but the plan must have thrown it out in any case.

NOTES.

A Question of Official Duties.

A CORRESPONDENT requests us to "open our columns" to a discussion of the question—what is the effect of an undertaking on the part of an official, holding such a post as that of borough surveyor, sanitary inspector, etc., to "devote his whole time to the duties of his office?" It is a point that has been raised from time to time between officials and public bodies, on various occasions, and if any reader has anything of importance to say on the subject, we shall be glad to print his remarks. Our own opinion on the point is this—that when an official in the service of a public body makes an undertaking to "devote his whole time to the duties of his office," it means that he is not to undertake any other work during the business hours of the office; not to make his official room a place of meeting on other business, or carrying on correspondence on other business but that appertaining to his employers' concerns; not to absent himself from the office, during business hours, on work of his own. Beyond that, we consider, the undertaking does not extend. Outside of business hours, his employers have nothing to do with his occupations, or with any other work that he may carry on. It has been attempted to be held, in some cases, that an official architect or surveyor has no right to carry on any private practice after office hours and in his own time. Whether this is law or not, we cannot undertake to say; but we do not think it is common sense. In support of this opinion, we may say that we knew a case of a professional man of exceptional ability who had a post in a Government office, which closed at 4 p.m. After this he adjourned to his own private office and carried on his own practice, and did so with the knowledge and approval of his chiefs in the Government Department.

The Garden City.

IN the selection of a site the First Garden City (Limited) have been fortunate in securing a tract of land possessing considerable natural advantages, and within a convenient distance from London. The estate purchased at a cost of about 150,000*l.*, covers an area of some 3,800 acres between Hitchin and Baldock, affording ample space for the establishment of the new community. We understand that the proposal is to build a town near the centre of the estate, and to limit the number of houses to that suitable for a population of 30,000 inhabitants. To prevent the possibility of overcrowding, the area of dwellings will not exceed about ten per acre, and ample spaces will be reserved for the purpose of recreation grounds, as well as for public buildings of various kinds. It is also proposed that a belt of land shall be preserved around the town, on which no buildings are to be erected. The greater portion of the estate will be reserved for agricultural operations, but due provision is contemplated for the erection of manufactories in suitable sites, where workpeople may have the opportunity of living in healthy homes and amid pleasant surroundings. A good many London manufacturers have already recognised the advantage of removing their works into the counties of Hertfordshire and Bedfordshire; and, as an additional inducement, the promoters of this scheme hold out the promise that an installation of power gas will be available for the generation of electricity for power and light. The laying out of this estate and the design of the proposed buildings affords a good opportunity for the exercise of architectural genius, and it is to be hoped that the promoters of the enterprise will not permit its success to be imperilled by insufficient attention to this point.

Cost of Production.

THE legislation recently obtained by the working classes in their interests has had an important influence in raising the cost of production, and too much attention cannot be given to this question by the responsible heads of labour organisations, in view of the important bearing this has on the trade of this country, quite apart from its fiscal relations. There is too great a tendency apparent to consider such legislation as purely humanitarian, as surely lessening the profits of the employers of labour, but its influence on our foreign trade cannot be too strongly emphasised Take such a measure as the Workmen's Compensation Act, and consider the charge on production which is thereby imposed; for not only have the sums annually paid to workmen to be considered, but the fact that an annually increasing number of workmen whose total incapacity has supervened are in the receipt of annuities. If the sums thus to be paid are estimated after the Act shall have been in operation for the lives of a whole generation, it will become apparent what an additional burden has been imposed on our trade by this measure alone. This Act is, however, only one of many, and in addition to this we have to bear in mind the additional burdens now being laid upon this generation by our extravagant policy in local government and successful loans. The working community have such common sense that they are hardly likely to look upon their employment as the goose that can lay golden eggs, as many of their leaders wish to persuade them, but should be urged to recognise that their trades form parts of a very delicate piece of machinery, easily placed out of gear, but which is connected with the world's trade.

Emanations from Radium. As Professor Sir William Ramsay pointed out on a recent occasion, a great advance has been made since the fact was demonstrated that a material constituent is to be traced in emanations from radium, and that this constituent already exists in the atmosphere. Although the commonly accepted definition of pure air as a mixture of oxygen and nitrogen is roughly correct, we are now aware that several obscure constituents exist. Helium is one of these, and it is now proved to be an integral factor in the composition of radium. The emanations from radium appear to be of threefold character. (1) A discharge of gas; (2) a stream of particles small enough to pass through thin sheets of metal; and (3) a discharge of which the nature is yet unknown, but that is able to penetrate blocks of almost any thickness. Professor Rutherford and Mr Soddy have shown the discharge of gas to be composed of helium, but this fact is not immediately evident to the investigator. It appears to be necessary that the gas should be exposed after collection for about a month, and at the end of that period a pure spectrum of helium may be obtained. From this, it is clear that radium cannot be an element, as we at present understand the term, but a compound of helium and some other element, or, perhaps, elements. The constant discharge thus seems to be due to gradual spontaneous decomposition. Whatever views may be held by theorists as to the ultimate nature of matter, it is tolerably certain that the investigations of modern chemists point clearly to the probability that many bodies, now believed to be elementary, will be found capable of analysis.

Railway Motor Services. We have previously made reference to the adoption of motor carriages on the London and South-Western, London, Brighton, and South Coast, and the North-Eastern Railway systems An interesting experiment of similar character is now being made on a portion of the Great Western Railway, by the institution of a motor service between Chalford and Stonehouse stations in Gloucestershire, these points being about seven miles apart. At the present time, the number of trains calling at these and intermediate stations is very small, and it is anticipated that the new service will constitute a great convenience, as a motor car will run over this section of the line every hour for twelve hours daily. This vehicle will stop at every station, and passengers will be picked up and set down at four level crossings on the route. The innovation illustrates in a very striking manner the advantage to be gained by the new system of locomotion. It would not pay the company to increase the number of ordinary trains, and it may be doubted whether those hitherto run have paid expenses, but a compact and self-contained carriage of the kind now available can be operated at so little cost, that there is reason for anticipating satisfactory results. There are several small towns and villages in the district where industries are carried on, and it is almost certain that the frequent service will encourage travelling on the part of the inhabitants. The Great Northern Railway is another line on which the application of motor carriages is under consideration, and the directors of the Great North of Scotland Railway have found their receipts so much diminished by electric tramways in the neighbourhood of Aberdeen, that the adoption of a motor service is being discussed. The developments to which we refer are interesting, because they afford evidence of the fact that our railway companies are preparing to adapt themselves to altered conditions.

Sewage Floods in Kensington. The last monthly report of the Medical Officer of Health of the "Royal Borough of Kensington" contains some information about the flooding of basements with sewage in consequence of the severe thunderstorm on September 4, and, coming as it does so quickly on the heels of previous reports describing similar nuisances in June, July, and August, cannot fail to be regarded as a document of great importance. Inquiries showed that, as a result of the heavy rains on September 4, "storm-water and sewage found entrance" to at least 881 houses in six wards of the borough, "and probably the actual number exceeded this large total." An extract from one of the letters of complaint received by the medical officer reveals the offensive nature of the nuisance—"about 19 in. of water invaded the premises, and when drained off—through the floor-boards and openings—half a cart-load of solid sewage had to be shovelled up and carted out into the garden where it now lies for inspection; the rest is under the flooring, stinking." That the probability of such floods had been foreseen is shown by the fact that a pumping station is being constructed at Lot's-road, Chelsea, for the purpose of lifting some portion of the sewage from the sewers into the river at high water, at times of heavy rainfall. The full equipment of the station will consist of eight pumps, but only one of these was at work on September 4; the others, it was expected, would be fitted up before the end of the month. The medical officer points out that at low water the sewage from the main sewer can flow by gravitation into the river, and as the height of the storm on September 4 occurred at low water, he draws the conclusion that the capacity of the sewer is insufficient, and fears that it is "very doubtful" whether, even with the assistance of the pumps, the flooding of basements can be prevented. If his fears are justified, it is clear that more burdens will have to be borne by the ratepayers of London; but it is highly desirable that, before a new main sewer is constructed, the possibility of constructing one for surface-water only should be carefully considered. The existing sewers are of ample capacity for receiving all the sewage and some portion of the surface-water, and a new sewer at a higher level can probably be constructed to receive the remaining surface-water and to discharge it normally into the existing low-level sewers and, during severe storms, directly into the river. Such a sewer would be much less costly than a new and larger main sewer, and would undoubtedly reduce the risk of flooding, but whether it is feasible or not is a question which can only be decided after careful consideration. We trust, however, that the pumps at Lot's-road will be of more use than the medical officer thinks.

Architectural Association Camera and Cycling Club. On account of the unavoidable absence of Mr. C. H. Oakden, his paper on "Little Known Irish Abbeys" was deferred, and in its place a paper on "Tele-photography" was read by Mr. G. H. Lovegrove. The subject was treated in a technical manner, and valuable hints were given as to the management of the apparatus, and the many ways in which efficiency under varying conditions could be best obtained. For the architect there is no more valuable adjunct to a camera than a tele-photograph lens, and the wonderful crispness with which distant detail can be taken opens endless possibilities to the more thorough study of our ancient buildings. Among the many admirable slides thrown on the screen were some details from inaccessible parts of Chartres Cathedral and St. Pierre, which showed how satisfactory were the results. The effect of rising heat or haze on the definition, and the necessity of working only when the air is at its clearest, was illustrated. The immense value of tele-photography in the study of animal life, and its great pictorial possibilities in the hands of a capable manipulator, were shown by a variety of slides. After the reading of the paper, a number of interesting slides of Beverley Minster, York, Ely, and Lincoln Cathedrals was shown from the club collection.

The Modern Sketch Club. The second exhibition of the Modern Sketch Club, at the Modern Gallery, 175, Bond-street, contains a good many clever and interesting sketches. Among them two or three by Mr. Moxon Cook are noticeable for fine broad landscape effect—"Cottages on Achill Island" (16), and "Storm Passing Gramont Range, Lake of Geneva" (29). Mr. E. S. Annison has a fine sketch with a very good sky, "On the Lea, Cheshunt" (5). Others others we may mention Miss Jex-Blake's "Evening on the River" (19); Mr. J. Whipple's "Fishing Village, North Devon" (28); Mr. Quinnell's head, "Sybil" (55); Miss Dorothy Grover's "On the Downs" (76); Mr. Samuel Read's clever impressionist sketch of "Henley Regatta" (82); Mr. Lionel Edward's study of a cow (92); Mr. Hamilton Jackson's "Twilight" (101); Mr. Alexander Colles's "Old Mill, co. Mayo" (106); and "Wicklow Pastures" (107), the latter especially good; Mr. Oswald Garside's "Timber Waggon" (151), a fine pictorial suggestion both in colour and composition; and Mr. A. Romilly Fedden's pencil studies of heads (10, 36, 167). Among the few architectural subjects Miss Jex-Blake shows a good study of "The Piazza, Verona" (192); Mr. T. Simpson's "Monuments, Layer Marney Church" (140), is in a good style of handling, but the architectural lines are out of the perpendicular, a fault we not unfrequently find in artists' sketches of architecture. Generally speaking, the works exhibited maintain the character proper to "sketches," viz., suggestions for pictures worked up to a certain point, without finish in details.

Drawings by Charles Keene.

It is perhaps owing to the exhibition of Phil May's drawings that a demonstration of the late Charles Keene's work has been made at the Dutch Gallery; so that with that and the Rowlandson collection at Leicester-square already referred to, we have now three collections of satirical drawings by eminent deceased artists open at the same time. Of the trio, we think Keene still takes the first place. He hardly surpasses Phil May as master of drawing and line, but for humour and character he is far superior. His freedom of execution is so remarkable also, and the manner in which he hit off the character and expression he wanted with so few touches and with such apparent ease. Look at the varied character in the small boys' faces in "Natural Advantages" (71), as slight as possible in execution, and looking as if they were done *currente calamo*, so to speak. The composition and management of light and shade are admirable in "Pauca Verba" (50), the figure in a white jacket giving such a capital effect of contrast. In character and expression perhaps the finest thing in the collection, or one of the finest, is "Responsibility" (39); the old grandmother and the schoolboy are each typical of their class, and the drawing of the old lady's face is a masterpiece of minute but unlaboured workmanship. There is not a drawing, however, in the collection that is not worth study, both for power of execution and humour. We do not think Keene will be beaten out of the field for a long time to come.

THE LATE H. W. BREWER.

As promised in our last issue, we give here a complete list of the drawings of original subjects, or of old work, made by Mr. Brewer for the *Builder*, with the dates of publication.

In addition to the remarks made in our article last week, which under the circumstances was necessarily short, we may say that, besides his work in black and white, Mr. Brewer was equally accomplished in the treatment of architectural subjects in water-colour. Among his works in this medium were two drawings of the Mausoleum at Frogmore, specially commissioned from him by Queen Victoria. Although he never practised as an architect, he had a keen perception as to problems in practical architecture. At a very early period of his connexion with this journal, he suggested and illustrated a method of gas-lighting in churches, by enclosing the lights in small glazed shrines against the walls, with an opening to the outer air for carrying off the products of combustion. He took an interest in the question of the organ in churches, and made a fine design for the treatment of a large organ on an arch carried over the chancel, so as to get it near to the choir without having recourse to the undesirable "organ-chamber." He was first also to suggest, and illustrate by drawing, the treatment of the Strand by the formation of a long garden connecting St. Mary-le-Strand and St. Clement Danes, which has recently been revived.

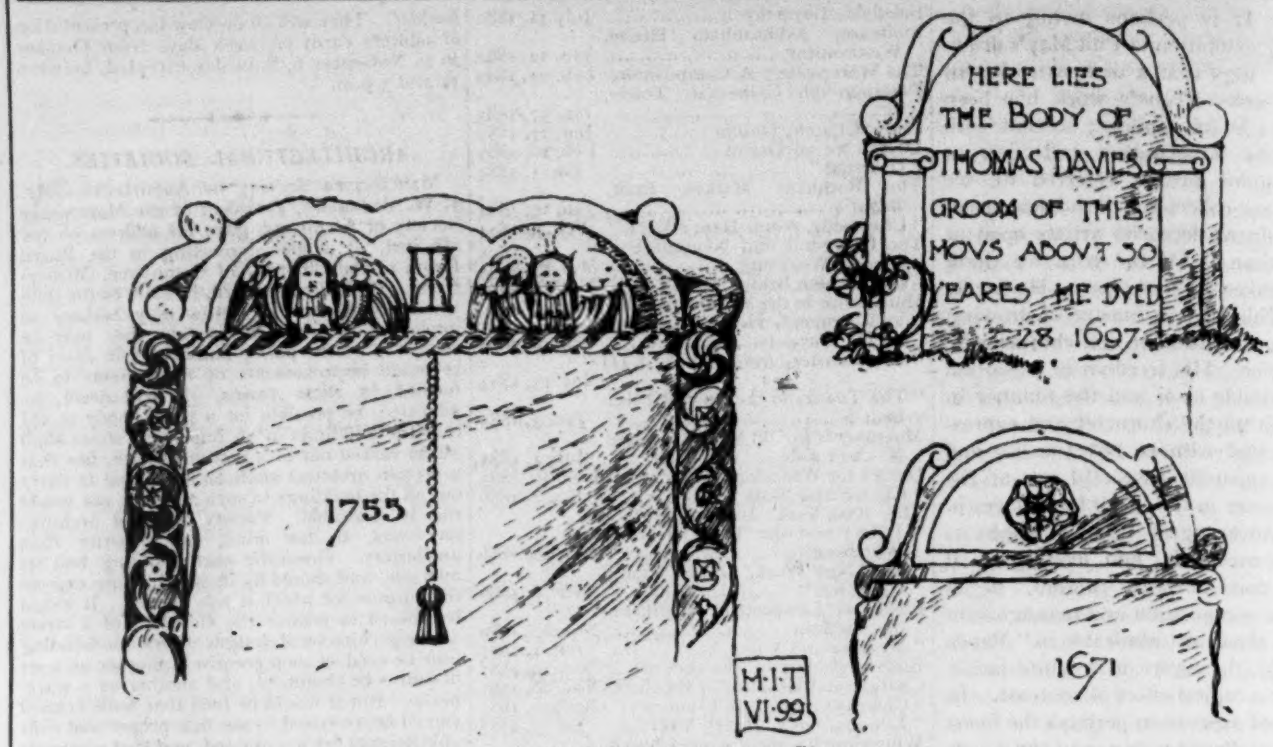
The following is the list referred to, of his drawings published in our pages:—

A Proposed Method of Lighting Churches	Aug. 25, 1877
Ancient Structure recently destroyed in Germany	Aug. 25, 1877
Ancient Woodwork in Holland	Feb. 16, 1878
Ancient Sepulchral Monuments	Apl. 27, 1878
St. Wolfgang's Church, Rothenburg, Bavaria	May 4, 1878
The Frauenkirche, Nuremberg	Dec. 21, 1878
An Architectural Patchwork	Jan. 4, 1879
London in the time of Henry VIII.	Jan. 7, 1880
Domestic Architecture, Ratisbon	Mar. 20, 1880
St. Eustache, Paris	June 5, 1880
Towers at Maestricht	June 19, 1880
Brick Architecture in Germany: Tower at Lubeck	June 26, 1880
Sulzfield, Germany	July 31, 1880
Staircase, Ashburnham House, Westminster	Jan. 14, 1882
The Water-gate: A Composition.	Feb. 25, 1882
Peterborough Cathedral, Tower, etc.	Jan. 27, 1883
Christ Church, Dublin	Jan. 27, 1883
Design for an Organ	Feb. 10, 1883
"Deserted"	Jan. 5, 1884
The Rathhaus Market, Breit, Bavaria	Jan. 19, 1884
"Cheapside, *temp.* Henry VIII."	Feb. 2, 1884
The Cathedral and Neumunster-Kirche, Wurzburg	Mar. 29, 1884
"Old London Bridge, and around"	May 10, 1884
Monstrance in the Münster Kirche, at Roermond, Holland (restored by Dr. Cuypers)	Nov. 8, 1884
"Westminster, *temp.* Henry VIII."	Nov. 15, 1884
"The Tower, in the time of Elizabeth"	Jan. 3, 1885
Monuments in Old St. Paul's—the N. choir aisle	July 4, 1885
Design for Widening the Strand	Dec. 26, 1885
"Church and State"	Jan. 2, 1886
The Rath-haus, Limburg-on-the-Lahn; and the Three Crowns, Wurzburg	June 26, 1886
"The 'New Work,' Old St. Paul's Cathedral"	Nov. 6, 1886
Castle of Lowenstein, Wertheim-on-the-Main	Nov. 27, 1886
"Measure and Value"	Jan. 1, 1887
Bindon, Axmouth, Sketches of	Nov 19, 1887
Château and Grounds of Brochem	Nov. 26, 1887
"Châteaux of the Low Countries"	Nov. 26, 1887
"London, *temp.* Henry VIII."	Jan. 7, 1888
Whitechurch Canonicorum Church, St. Candida	Jan. 14, 1888
"The Two Bridges"	Mar. 17, 1888
"Renaissance Gorgeousness" (a church interior)	July 7, 1888
"Paris, in the time of Francis I."	Jan. 5, 1889
"Paul's Walk"—the nave of Old St. Paul's, as in *circa.* 1641 (a restoration)	July 6, 1889
"The Palace"	Jan. 4, 1890
"Some Churches upon the Lower Rhine"—Altenberg; Calcar, St. Quirinus, St. Victor, Xanten, gateway, etc.	Mar. 8, Apl. 5, May 3 & 17, June 7 & 21, 1890
The Old Bridge, Prague (partly destroyed by floods)	Sept. 20, 1890
"Mediæval Oxford"	Jan. 3, 1891
St. Alban's Cathedral	Mar. 7, 1891
Rochester Cathedral	Oct. 3, 1891
Old St. Paul's Cathedral	Jan. 2, 1892
Old St. Peter's, Rome	Jan. 2, 1892
The Old High Altar, Westminster Abbey	July 2, 1892
St. Stephen's Chapel, Westminster	July 23, 1892
"Some English Architecture of the Last Fifty Years—1842-92"	Jan. 7, 1893
Railway Views at Home and Abroad	Jan. 7, 1893
Durham Cathedral: View in South Aisle	June 3, 1893
"The Picturesque in Chimneys"	July 1, 1893
"An Ancient Harbour"	Sept. 30, 1893
"On various Types of Fountains"	Dec. 2, 1893
"On No Man's Land"	Jan. 6, 1894
Nonsuch Palace, Surrey (a restoration)	Jan. 27, 1894
Old Grey Friars and Newgate	Apl. 21, 1894
The Colleges of the Ancient University of Paris (leading article)	Aug. 18, 1894
The High Altar, Moosburg, Bavaria	Nov. 3, 1894
The Old Palace, Richmond—from the river	Jan. 5, 1895
Sketches of Portuguese Buildings	Feb. 7, 1895
The Fugger Chapel, St. Anne's Augsburg, and the Reredos, Schnekin Chapel, Augsburg	Apl. 20, 1895
"Some Norwich Churches"	Oct. 5, 1895
Ludgate, *temp.* Henry VIII.	Jan. 4, 1896
Carved Woodwork, Spanish Churches	Apl. 25, 1896
"Structures over the E. ends of some English Churches"	Dec. 5, 1896
"Aldgate in 1531"	Jan. 2, 1897
W. Choir, Bamberg Cathedral	Jan. 9, 1897
Sketches: "The Uglification of London"	Mar. 27, 1897
"A Monastic Suburb of Old London in the Sixteenth Century"	Jan. 1, 1898
"A Half-century's Change in London"	Jan. 7, 1899
"Lights and Shadows of a By-gone Day"	Jan. 6, 1900
External Crosses and Pulpits	July 21, 1900
"The Heart of Rouen"	Jan. 5, 1901
"Antwerp, at the close of the Sixteenth Century"	Jan. 4, 1902
"Commercial Art"—a composition (Flemish town "to show how commercial buildings can be invested with picturesqueness"	Jan. 3, 1903

We have arranged to have a small exhibition of Mr. Brewer's drawings which have been made for this paper, at the Office of the *Builder*. They will be on view (on presentation of address card) on week days from October 26 to November 6, Saturday excepted, between 12 and 3 p.m.

ARCHITECTURAL SOCIETIES.

Manchester Society of Architects.—Mr. J. W. Beaumont, President of the Manchester Society of Architects, gave his address on the 8th inst. at a special meeting in the Board Room of the Chamber of Commerce, Mosley-street. He looked forward, he said, to the time when architectural societies may become so important in large towns that they may be consulted by the public authorities in cases of proposed improvements or new streets to be formed in those towns. It will never, he admitted, be possible for a public body to say that the buildings in an important street shall all be carved out of a certain design, nor that a certain architect shall be appointed to carry out all the buildings in such a street; nor would this be desirable. Variety of street architecture was, to his mind, much better than uniformity. Generally each building had its own use, and should by its architecture express the purpose for which it was erected. It would be absurd to confine the elevation of a street to one architectural design, where one building may be used as shop premises, another as a set of offices or chambers, and another as a warehouse. But it would be held that some control should be exercised to see that proper and suitable heights are maintained, and that materials are used in the various buildings that will harmonise with neighbouring buildings. One thing he wished to impress on his hearers was that more control should be exercised by public bodies in seeing that all new buildings are erected in such a manner as to minimise the risk of fire. Several subjects of great importance had received a large amount of attention during the last twelve months, and the greatest of these was the question of the statutory registration of qualified architects. The time was at hand, he said, when architects must make up their minds on this question. In order to ascertain the general feeling on the subject, he had invited the opinion of various societies in different parts of the country, and out of twelve from which he had received replies, six were in favour of registration, one against, two were divided in opinion, and three had not discussed the question. The Manchester Society had already pronounced in favour of registration. Of course, as was the case in other professions, no form of registration would suffice to suppress "quacks," but it would enable the public to discriminate between qualified and unqualified architects. It would also be an advantage to a man to employ an architect who was legally qualified, and against whom he would have legal redress in case of neglect or incompetence. As to education, he said it was important that architectural students should pass all the examinations of the Royal Institute of British Architects, and not simply the first and second. In this connection, he referred to the establishment of a School of Architecture in Manchester. He was glad that this school had been established. The time of apprenticeship might perhaps be shortened for those who had passed through the school, but nothing in the shape of theoretical or academic training would enable a student to dispense with the practical training of an architect's office. He believed that this Manchester School of Architecture will become, under the care of Mr. S. H. Capper, one of the foremost centres in the kingdom for the instruction of architectural students. Turning to the question of competitions, he suggested that the principle had been overdone. He recognised the value and need of competitions in the case of public buildings, but in all cases they should be conducted on an equitable basis. He indicated certain ways in which a useful reform in regard to competitors might be brought about.—Mr. Alfred Darbyshire moved a vote of thanks to the President for his address, and that it be printed and circulated forthwith.—Mr. Capper, of the School of Architecture, in seconding the motion, gave the result of his experience of the working of a registration law in the province of Quebec. Whilst he was at the head of the School of Architecture in that province architecture was made a close profession, in the same sense as the bar and medicine are close professions. Some of the results were not exactly what one would wish. One of the immediate results was to flood the profession with unqualified men, because every



Old English Gravestones. Fig. 1.

person who had had a sign-plate with the word "architect" upon it had to be admitted as a qualified architect. Of course, time would cure such an evil. With regard to the School of Architecture in Manchester, he fully appreciated the necessity of practical training. He suggested, however, that arrangements might be made whereby students, in some cases, might carry on their collegiate training side by side with their practical work.

Birmingham Architectural Association.—The President of the Birmingham Architectural Association (Mr. Arthur Harrison) delivered his presidential address to the members on the 9th inst. at Norwich Union Chambers, Congreve-street. He took as his subject the housing question, and dealt at some length with the construction of block dwellings. At the outset he alluded to the evils of overcrowding and to the necessity, in the interests of health, of a clearance being effected as far as possible in insanitary areas. He explained various schemes which had been suggested for bringing about an improvement, and pointed out that a scheme which might be suitable for one town might be unsuitable for another. The flat system in Birmingham, for instance, seemed to be regarded with disfavour, but that was largely on account of its novelty. Still, the fear that the people would not take to flats no doubt influenced the Corporation when they produced the Milk-street tenements, as they were in the nature of a compromise. They were built on the principle of flats, but only two stories high, and that he regarded as a mistake. Whether there was any prejudice against four-story flats would soon be proved, because two schemes of block dwellings were being carried out in this city. He had inspected the buildings of many municipal and private enterprises, and had been disappointed with the block dwellings because better results might have been obtained for the money expended. The two schemes which were in progress in Birmingham, however, were different. He described in considerable detail the erection of these dwellings, explaining the improvements and conveniences which were secured in comparison with other dwellings, and said the tenements could be let at remarkably cheap rents to the poorest tenants, and still yield a return of 5 per cent. on the capital. Judging by the number of applications for the tenements, he did not think there was anything to fear from prejudice. As Municipal Corporations had facilities for borrowing money at cheap rates, it would be possible for them to do much towards solving the housing problem, and in bringing about an amelioration of the condition of the working classes, but most Corporations had already borrowed up to the hilt. Moreover, it was often said that Corporation work was more costly than private work, and, further, it was often contended that if the Corporation embarked in the erection of artisans' dwellings they would stop all private enterprise. Still, whoever undertook the work it would have to be carried out. It was probable a solution of the problem would be found ere long, and in the carrying out of the work the architects would play a by no means unimportant part.—Mr. Harrison was cordially thanked for his address.

SOME OLD ENGLISH GRAVESTONES.

For these sketches of some old English eighteenth century tombstones we are indebted to Mr. H. Inigo Triggs.

Those included under Fig. 1 are all from Brympton, Somersetshire, and are executed in Ham Hill stone, quarried about four miles off.

Figs. 2 and 3 are from Chiswick Churchyard. Both are in Portland stone. Fig. 2 is 2½ in. thick, the other 3 in. Fig. 2 bears on one side a relief of an hour glass, on the other side the serpent with its tail in its mouth; the emblems respectively of Time and Eternity. The date and inscription on this example are worn out.

THE ARCHITECTURAL ASSOCIATION SCHOOL OF DESIGN:

OPENING MEETING OF THE SESSION.

The preliminary meeting of the Architectural Association School of Design was held on Tuesday in the Meeting Room of the Royal Institute of British Architects, No. 9, Conduit-street, Regent-street, W., Mr. H. T. Hare, President of the Association, in the chair.

The Chairman said they had met to hear some remarks from Mr. Walter Cave and Mr. J. S. Gibson at the opening meeting of the School of Design. The design classes were, he thought, quite the most important part of the courses of the Association. The whole end and aim of an architect was to be able to design. It was the most important function he exercised, and it was the most difficult thing he did. All the other studies which students undertook were more or less subsidiary to this great one of design, and the only way in which they could obtain any facility in design was constantly to practise it, and the more they did the better they would be able to design. They could not possibly do too much. He was extremely pleased to see such a large gathering as he saw before him, and he hoped that this meant that the classes would be full. There was one cause for a little regret, and that was that though these classes commenced with a full attendance at the beginning of the session, that attendance fell off towards the end of the session. At the last two or three meetings, although the subjects were of as great interest as those at the beginning, the attendance was very small, and the designs submitted were very few, and the work went on in a half-hearted way. He did not know why this should be, for the subjects given were not of such an extensive nature that they called for a great sacrifice of time; and although it was quite true that these later classes were held in the spring, when the evenings were light and there were more out-of-door amusements, still, he did not think it would entail a great sacrifice of time to take up the various subjects and go through with them without dropping off, as had hitherto been customary. He hoped that this would not be the case in the coming session, and that a large number of students would continue to work right through to the end.

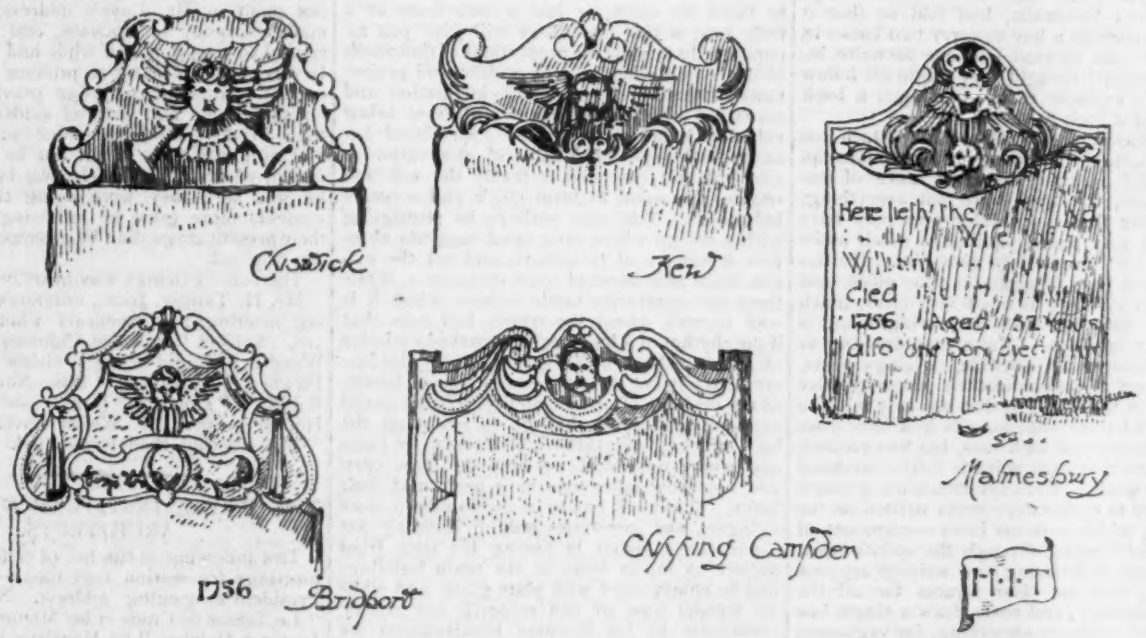
Mr. Walter Cave said that the subjects to be dealt with this winter in the School of Design were all to be thoroughly discussed by the different visitors, and it would be impossible to enter into any of them that evening. He felt, like all those who work, a curious powerlessness to talk about what one is doing. He had often noticed that when an acknowledged expert on any technical subject attempted an explanation of his art or craft he took it for granted that either his audience knew nothing, or else as much as he did himself, and, as a natural consequence, either his explanations were extremely tedious, or else quite unintelligible to the ordinary listener. He (the speaker) could not lay claim to be an expert in any subject, but he could enter into the other side of the case, *i.e.*, that of the audience who wish to learn; and so he was going to suggest a reversal of the ordinary procedure and see what he could learn from them during that part of the autumn's work which had been entrusted to him; and in order to do this to their mental advantage, he would indicate briefly that evening some of the points on which they might both benefit by special study.

"Tradition" and "experience" were both very important words to the young and to the old architect. Reverence for the first (tradition) was, he hoped, common to both, and experience was the fascinating goal to the young—and sometimes, alas, a bitter memory to the old. It had been truly said that we can only learn by experience, but he would go farther, and say that it was only by paying for our experience (sometimes in actual cash) that our lesson was really learnt, and it was with some such object in view, *i.e.*, of saving them bitter memories in the future (if not their pockets, also), that he would offer a few hints on the work before them—both there in the school and in their after life work.

Let them first begin by reverencing tradition—they, on their part, to try and make a wise use of it in working out their designs—carefully weighing past work, and seeing how it could help them in solving more modern problems, and so, by utilising intelligently the experience bought by the practice of older and possibly wiser men, they would, in their turn,

Fig. 2.

Fig. 3.



Old English Gravestones. Fig. 4.

be adding another stepping stone towards success for future generations. All really sound, fine, and successful architecture had been in the past built upon and evolved from what had gone before, and why should they, with all the wealth of examples before them, ignore those lessons which tradition and experience alone could teach them. He, for his part, would endeavour to keep tradition in view when their drawings came before him—not necessarily setting up a fixed and unalterable model on which he should expect all their designs to be based, but seeing how far fresh views based on older examples could be fairly considered as improvements, and to what use an intelligent and broad-minded study of the past could help in elucidating the problem in question.

Next he would like to say: Do not take anything for granted. They would find in every question which they had to answer, and every problem which they had to solve, both there and in their future practice, that at first sight certain arrangements appeared inevitable. "Do not trust these appearances without a very careful search and honest endeavour to prove that these things are inevitable. Certain traditional methods, short cuts to success, which you have seen used, or a personal predisposition for certain forms, will be almost sure to rise in your mind at the beginning of your work. Do not trust them without a severe mental cross-examination to prove that they really are the best and most fitting solutions of what is before you. Do not be content to do always exactly the same thing even in the simplest matters, but endeavour to improve and advance. If you do this at the beginning of your work you will be saved the mortification of finding, when your drawings are approaching completion, that with a little more thought at the start you might have produced a far finer design. You then may have to face the work of beginning all over again, or sending in a design which you know is not the best you could have done."

He would try to avoid any prejudice for any special arrangements when looking at their drawings; and very possibly would gain by admitting a different solution from the one which he had thought the most convenient, and so avoid, on his part, the error of taking anything for granted.

Avoid eccentricity. This was a warning which he knew had often been given, but it was of such importance that he made no apology for saying it again. It was the besetting sin of many architectural students (and, indeed, of some full-grown architects). Originality and eccentricity were very nearly related, and it required an exceptionally strong character to adopt the first without the second. To the student, the danger of becoming eccentric, in his desire to be original, was such a real one that he felt almost inclined to say: Do not be original; but this would hamper all progress if followed literally. So his earnest advice was not to strive for originality, but to let it grow naturally, as he said before, from a careful study of the past. "And be sure that your variations *are* improvements." A careful inspection of those designs which he had seen during his short experience of the Architectural Association, and which offended on the score of eccentricity, invariably showed a large amount of imitation from some modern designer whose work was labelled "original," and, as a rule, the points which were selected for imitation were the worst ones in the design of the unfortunate model selected. So he said again: "Avoid eccentricity and any desire for originality for its own sake"; and he hoped that he might be saved from further learning the lesson of seeing "what to avoid."

Next, their designs should be suitable. This sounded easy, but it might not prove so simple as it appeared. "Think well of the object for

which you are striving—the uses to which the building will be put—and try and place yourselves in the position of the people who will use it. Do not think only of the exterior elevation. Begin with the plan in all its branches, and design from the interior to the exterior, remembering that however attractive you make the outside, it will be judged principally by those who inhabit the inside, and an attractive elevation will not compensate for an ill-arranged plan. Remember the story of the unfortunate client who, having expostulated with his architect on his ill-lit rooms, was told that the orders and proportions of the façade were exceptionally perfect, and who answered that he had better take a lodging on the other side of the street that he might fully appreciate his own house!

Let your design grow in your mind, and not on the paper. This is, perhaps, the most important point of all, and I have kept it to the last. One of the greatest helps to this end is the habit of sketching from memory, and I would advise you all to cultivate it. At first you will be astonished to find how difficult it is, and how very inaccurate are your powers of observation; but with practice these will improve, and the gain will be great, both to your memory and critical faculties, as well as to your powers of design. Try and carry the design in your head as a whole."

Sketching of all sorts was an admirable habit, and measured sketching of the greatest importance to all students, not with the view of reproducing what they sketched, but as a means of ascertaining how certain proportions and effects had been produced, and of generally obtaining a real and intimate knowledge of architecture. One of the greatest masters of literary style at the close of the last century, Robert Louis Stevenson, had told us that it was his custom as a boy to carry two books in his pocket—one to read and one to write in. He (the speaker) thought they might all follow Stevenson's example with advantage: a book to read and a book to sketch in.

As to drawing, they should not attach too much importance to mere draughtsmanship. Careful and accurate drawings were of immense value, but they were not everything. "Remember that the builder who may have to execute your plans requires as much assistance as you can possibly give him. He has not followed your thoughts in your office, and unless your meaning is made very clear, much time may be wasted in discovering what is really your intention. Make your drawing as straightforward as possible, giving plans, sections, and elevations in their proper relative positions on the sheet, so that not only will the builder (and those who have to look over your designs) follow you with ease, but you yourself will be sure that each point is fully considered and will 'work.' I always attach the greatest importance to explanatory notes written on the drawings, which save an immense amount of trouble and hunting through the specification. Avoid fantastic lettering and writing on your drawings, and use clear figures for all the main dimensions; and never draw a single line which does not mean something, for vagueness on your part is simply bewildering to the unfortunate translator. I, for my part, shall endeavour to judge of the thoughts displayed rather than the draughtsmanship.

To sum up, the main points I should like to draw special attention to are (1) Reverence for tradition and experience; (2) Take nothing for granted, but prove each step; (3) Avoid eccentricity; (4) Aim at suitability; (5) Design in your head rather than on paper; (6) Cultivate the habit of sketching from memory; (7) Make your drawings clear. With these points borne in mind, I hope the work before us will prove both interesting and instructive, and that we shall each and all benefit by loyally carrying out our share of the work."

Mr. J. S. Gibson said that in beginning the work of the new session there were some points to which all workers should direct their attention. Foremost among these was the necessity for the proper application of labour to produce the best results. Misdirected labour was worse than laziness, for while the latter did not add to the sum of the community's possessions, the former added thereto the undesirable things. For this reason the School of Design existed to help them to direct their labours in the right channels—to draw their attention to the cardinal principles governing all design, the fitness of the article to the purpose it had to serve, the nature of materials influencing their æsthetic treatment and the immense value of beauty for its own sake. They all knew that "a thing of beauty is a joy for ever," and the reason it was joy-giving was because of the expression of soul which its maker put into its fashioning. If the maker took no delight in its creation, they might be sure the beholder would take little delight in its existence. In this school they had the benefit of the experience of those men who had walked further up the hill than those who were just beginning to climb with their faces turned skywards; men whose horizons were perhaps wider and vision clearer; and these men, by their criticism, help, and guidance would enable students to direct their efforts to the best advantage. Persistent application would overcome many obstacles; those almost impassable barriers that genius lightly vaulted over could also be surmounted by that dogged determination to succeed which ought to possess their minds at this period of their work.

"A healthy curiosity is also desirable at your age—a spirit that desires to know not merely that what is, is right, but the why and wherefore of its rightness; and I would counsel you not to be diffident in seeking information from your visitors. They come to impart information, as far as they are able, but it will also help them if you will give a hint of the kind of information that your state requires."

The next point that he would emphasise was that of observation, and the necessity of using this power at all times. "Do not think that only in the office or the school you will learn all that is to be known in the matter of design. If your faculties are all alive there, so much the better, but it is also imperative that you should have them fully awake in the street, the shop, and wherever else you may be. When you are worried as to the proportions of a door or a window, whether its height should be twice its width, or just a little more or a little less, a ride on a 'bus will give you an opportunity to view the proportions of thousands of doors and windows, the widths and projections of their architraves, the inclination and curvature of their pediments, all this being valuable information, keenly appreciated because observed. This habit of observation is also valuable, because it trains the eye and enables the mind to form quick and accurate judgments. You may perhaps be struggling with a design where your mind suggests absolute symmetry of treatment, and yet the exigencies of plan demand some variation. While these two contraries battle in your mind, it is well to walk about the streets and note that if the rhythm of a building is preserved variation of detail enhances its charm; that absolute symmetry is not the chief constituent of beauty or the evidence of artistic ability. The thousand and one trivialities that go to make up the bulk of our daily tasks will interest us more and worry us less if we keep our eyes open and note how other men have performed their tasks. Our work has to be done under a most stringent and sometimes galling Building Act—our client insists in having his shop front project 10 in. in front of the main building, and be chiefly filled with plate glass, and while we wonder how we can reconcile our artistic conscience to his business requirements we may gain practical suggestions by looking at what our fellow architects have done in similar cases. It is not that we want to find a precedent for all our work—that would be a poor and profitless task; but that the things seen will convey impressions to the mind which drawings can never so clearly express."

The last point he would commend to their notice was usefulness. Let their work be directed to a practical and useful end. A large proportion of their time was spent in their master's service, and by making themselves useful to him, by making his interests matters of moment to them—they would increase their own experience, develop their responsibility, and further their education. It was a grave mistake for an assistant to do other than render the fullest assistance he could to his employer; it was also as grave a mistake for an employer to place any hindrance in the way of the development and improvement of his assistants, for thereby he injured himself, as the more capable the assistant so much the more valuable the services rendered. The main factor for the older man's guidance was to remember that the mind of the younger one required, as new facts, those experiences of his that to him were almost commonplaces; not to be tired and bored with the continual searching after new facts which was the sign of a healthy young personality; and to bear with the desire for a little change or relaxation; while the younger man should think that there may be worries and vexations attached to a practice that inevitably ruffle the temper on occasions, and that a mind filled with the complexities of a modern town hall design could hardly manifest an overwhelming interest in the niceties of a thick versus a thin line in a student's drawing. And while on the subject of lines he would say that it should always be their aim to clearly express in their drawings what was in their mind, to make them workmanlike, practical and complete, so that when they had finished them they would be dismissed as something done, and could be clearly read by an intelligent person. Perhaps this was not a high ideal, no dreaming of sermons in stones and the glorious mysteries of mighty cathedrals; but they would find the realisation of it would save them many pin pricks that go to make up life's experiences, and perhaps form the mind so as to enable them to conceive those grand architectural visions which he hoped it might one day be their good fortune to see realised.

Mr. H. Tanner, Junr., proposed a hearty vote of thanks to Mr. Cave and Mr. Gibson for their remarks. He should like to emphasise one point made by Mr. Gibson, i.e., the importance of observation. By observation—by riding on a 'bus, for instance, for the purpose—a great deal could be learnt—and a great deal of what to avoid, too, which was a matter that helped students sometimes. As Mr. Cave said, they should not copy, but they could learn the good points of other people's designs.

Mr. H. P. G. Maule seconded the vote of thanks. Those who heard Mr. Cave last session on the bay window subject would look forward to his treatment of the subject he was going to take this session.

The Chairman said he would like to refer to one point in Mr. Cave's address, which was made expressly to students, and that was in regard to tradition and what had gone before. It was so much better to produce even a more or less commonplace design providing it was on safe lines, and showed evidence of study than to do something which was eccentric; and although they might not be producing a design which pleased their own fancy so much he was sure they were doing themselves as students more good by following tradition in their present stage than by attempting anything too original.

The vote of thanks was heartily agreed to.

Mr. H. Tanner, Junr., announced the following meetings:—Elementary Class—November 3rd. Subject "A Stone Chimney Piece and a Wooden Chimney Piece," visitor Mr. E. Guy Dawber. Advanced Class—November 10th. Subject "Country Bank and Manager's House," visitor Mr. Walter Cave.

The meeting then terminated.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

The following is the list of ordinary general meetings for session 1903-1904.—November 2, President's opening address. November 16, "Le Trésor de Cnide et les Monuments de l'Art Ionien à Delphes," by Monsieur J. T. Homolle (Hon. Corr. M.). December 14, the Royal Victoria Hospital, Belfast: Its Inception, Design, and Equipment," by Messrs. Wm. Henman and Henry Lea, C.E.

1904:—January 18, Award of prizes and studentships; paper, "Architecture in Lead," by Mr. J. Starkie Gardner. February 1, President's address to students; presentation of prizes. February 15, "The Bacteriological Disposal of Sewage from Isolated Buildings," by Professor Frank Clowes, D.Sc. March 14, "Plaster Decoration," by Mr. J. D. Crace. March 28, "Electric Generating Stations," by Mr. C. Stanley Peach. April 18, "The Statues of Wells Front, with some Contemporary Foreign Examples of Sculpture," by Mr. E. S. Prior. May 16, "The Planning of Collegiate Buildings," by the Rev. J. B. Lock, M.A., Bursar of Gonville and Caius Coll., Camb. June 20, Presentation of the Royal Gold Medal.

War Memorial, Derby.—A memorial has been erected at Derby by the Midland Railway Company to those of their employees who fell in the late war. The memorial consists of a plate of red bronze chiselled so as to leave the names in relief. The size of the tablet is about 9 ft. by 4 ft., and it is in a frame of green faience tiles. Messrs. Hardman and Powell, of Birmingham, have executed the work, and it has been fixed and chiselled under the supervision of Mr. C. Trubshaw, the architect.

LIVERPOOL ARCHITECTURAL SOCIETY.*

PRESIDENT'S OPENING ADDRESS.

GENTLEMEN,—Allow me to thank you for the pleasure and privilege you have given me in re-electing me as your President for the ensuing year. I deeply value this confidence reposed in me, and appreciate your courtesy and kindness.

At the present time, when the country is being agitated by the fiscal policy, and questions of future prosperity are being carefully considered, the thoughts that naturally arise in our minds will be those that touch the prosperity and well-being of our city, and to watch carefully the signs of the times as regards our own profession. I feel confident that the opinions and actions of the great bodies that control this City will be a satisfactory index to show that Liverpool is rapidly increasing, and that good architecture will be more and more in demand.

Take first the Dock Board, the finest business combination in the world; this Board does not consider we have reached the summit of our commercial success, or it would not now be building the new magnificent block of offices for future administration of its trust. The merchants of Liverpool do not think business has gone to the dogs, or why should they contemplate a new Cotton Exchange? The City Councillors are not standing still; their schemes are almost Utopian in their magnitude, and their borrowing powers for millions are always eagerly sought after by capitalists and investors. The Church does not think Liverpool's progress at an end, or why should she contemplate placing in her midst the greatest cathedral of modern times for the use of the diocese? Education looks forward to a greater City, and has inaugurated a University.

These all point to the conclusion that our City must occupy the proud position of being one of the great commercial centres of the world, and in its advancement architecture must and will take its full share in the making of it.

It is a good sign when our municipal rulers are determined to beautify the City as far as lies in their power, thereby attracting visitors who will be a benefit to its residents. Their task is a difficult one, for the City has simply grown haphazard and the streets anyhow.

Consider that, with the exception of the Exchange flags, we have no really grand finished street or square that is not marred by some mean or unsightly block of property, nothing that is in advance of what you can find in other cities, no part that the inhabitants are really proud of, such as Princes-street, Edinburgh, for the Scots, or Sackville-street, Dublin, for the Irish. I say it is a good sign of the times that our Corporation is alive to this defect, and is doing its best to remedy it.

The past generation left us St. George's Hall, and this has continued to be the pride of the City; round this the various committees of the Corporation have spent, and are spending thousands and tens of thousands of pounds to make it one of the centres worth a visit. The north side of this square is now practically finished, but the completion of a grand scheme is spoiled by the surrounding property on the other sides.

What I should like to see would be new law courts, such as Birmingham possesses, planned for conveniently carrying out the law, and St. George's Hall used for one purpose only, say a people's hall, with exits on to the new terraces and gardens adjoining, now being developed, where music could be heard the year through, either inside or out. Or St. George's Hall used exclusively for the courts, and a new hall built on the same scale as a people's hall with the organ removed into it, and where the enjoyment of the one would not mar the business of the other.

May I advise the students, who want to study the various methods of planning steps, to take the several buildings surrounding St. George's Hall? The Sessions House has one method, the Art Gallery one a little more pretentious—but this is not very comfortable. Then we come to the Library, and here is a difficulty; the way in is not the way in, but the public entrance is next door, and equal to that of a small suburban villa; then the final and last effort, the grand approach to the building which contains our odds and ends; all these wonderful flights of imagination and steps, beautifully joined together with their little grass plots, are very interesting, but one might possibly have wished that a stone terrace had been carried from one stair to another, either on columns or otherwise, so that it would have been unnecessary to have such a going up and down stairs to the Public Galleries. The Technical Schools are not in competition, the architect placing them round the corner.

Soon most of these buildings will be too small for their work. The Art Gallery is only a pigmy compared with those in continental cities, which are not so important as Liverpool, and no doubt it will have to make room for one much more pretentious and commodious. The art interest will last, and a picture gallery worthy of encouraging it will be a necessity. The Library will some day, let us hope, be able to absorb the public room beneath for its own work, and provide cloak rooms and other modern requirements.

I sincerely hope the Corporation will watch the streets which lead to the site of the proposed Cathedral, as opportunities may occur to open up a grand thoroughfare from the centre of the City.

These are some of the greater works with which the Corporation will doubtless deal, but there are many other matters smaller but quite as important. We acknowledge they are an artistic body, for have they not made by-laws as to posting advertisements on the hoardings of buildings in erection to avoid startling the sensitive feelings of the passers-by? Then why should the unfortunate passengers of the tramcars be sandwiched between all kinds of advertisements—milk, biscuits, blacking and what not? Why the tramcars? There are many other vehicles which could be utilised for this purpose—dust carts, water carts, patrol waggons and water barrels. If it is necessary to decorate the cars, the present way of covering them with advertisements is very ordinary. I don't think it is even done in Glasgow.*

The question of greater Liverpool is a very interesting one, many considering that all thoroughfares leading into a city should be under the administration of that city; but it has been decided otherwise, and the courtship of Liverpool and Bootle has almost equalled the courtship of Miles Standish. When the wooing seemed to be prospering, and our gay City seemed almost within distance of attaching the last rib to complete the body municipal, Bootle turned coy, and now prefers single blessedness, and by this whim retains possession of her own property and the management of her own estate. Whether this will be an advantage or not time will show.

Those members who followed the proceedings of the Congress of Health recently held here, and who have studied the handbook issued by the Local Executive Committee, will form some idea of the enormous amount of administration which goes on from day to day for the health and well-being of the inhabitants. In the handbook a considerable space is taken up with the subject of artisans' and labourers' dwellings. The subject is threadbare, but, nevertheless, important. I think the housing of the middle classes should command further attention. The pitiful line of ugly streets, the everlasting repetition, the want of grouping and planning is the ruin of our suburbs. There is a demand for more artistic small houses, and men will pay more for them, but the supply is absurdly small.

This important subject has not escaped the eyes of our secretaries, and they have the promise of a lecture by Mr. Frank Rimmington on small houses of to-day and their architects. Further than this, Mr. Austin Taylor's address on the Housing Question, published in the "Journal of State Medicine," shows that at least one of our City Councillors has many valuable suggestions to offer on the subject.

The importance of residential flats for a place like Liverpool, with its ever-changing population, is a subject worth discussing, as well as the difficulties of erecting them under the present building by-laws. It is surely advisable to keep the citizens, who would inhabit them, rather than compel them to go to some suburban district to get the accommodation they want.

The method of conducting competitions is now being carefully watched by the Competition Reform Society, and there is one point I cannot allow to pass without comment. I refer to the several cases where the assessor is made joint architect with the successful competitor. It can be easily seen that such an arrangement is opening the way to what may in the end turn to a serious abuse of the honour and confidence reposed in an assessor, and I think the Society should strenuously oppose such partnerships.

These thoughts, strung together, may be taken as a sample of the many subjects upon which architects are supposed to be fully alive, and make one wonder what is the limit of the requirements of our profession. Who can sum them up, the questions we are constantly asked to advise and decide on, the subjects with which we are supposed to be familiar? Art, of course, both constructional and applied, every material new and old, from marble to nails; everything required inside and outside of buildings, whether palace, workhouse, asylum, office or residence, from the ground they stand on to the smoke that issues out of the chimney. Cannot the cook make a good dinner? It cannot be the fault of the cook, it must be the range. Send for the architect. The water is not always hot—never mind if the fire is out the tap is stamped "hot," so send for the architect to find out the defect; and thousands of such troubles weekly. Surely an architect is a living Encyclopedia Britannica, to be applied to whether the world goes right or wrong.

I feel sure the syllabus you have received will testify to the vitality of our Society; and also to the labour and indefatigable interest taken in it by our Secretaries. Take one or two only of the prospective subjects. Mr. H. Chatfeild Clarke will lecture on the Bill for altering the law of Ancient Lights, a subject full of importance and interest. Light is certainly an ancient question, for if I quote right, when the word went forth, "Let there be light," it certainly was the beginning of the contract for making the earth, and is certainly very ancient; but why when it goes through a window it should be called ancient after only twenty years' tenancy is rather an insult and a conundrum—a time not sufficiently long to season good wine.

We hope to have the pleasure of welcoming amongst us Mr. G. Gilbert Scott, to read as a paper, "Notes on the Liverpool Cathedral." There will be other lectures upon subjects equally interesting.

In opening this the fifty-sixth session of our Society, I hope it will continue to do the good work it has already accomplished. Liverpool has as many good examples of modern architecture as can be found in any city of its size, many of which will remain as long as she exists, but nevertheless I feel we are only at the beginning of the making of a great city. The growth of the population is by leaps and bounds. The streets are too narrow, the trams of yesterday can hardly cope with the demands of to-day. The overflowing traffic congests the already enlarged railway stations, places for public meetings and amusements are only in their infancy, and when provision has to be made for the airships of the future and other modes of conveyance, you will agree with me that we are only yet emerging from the dark ages. Later on we shall find the Mersey clear and the water its natural colour, no filth will be allowed to be poured into it without being purified; we shall find that the smoke problem has been for ever settled, and soot and fumes banished from the atmosphere, and Widnes transformed into a Garden City. Even when all these changes are still in progress and accomplished, the architect will still be a necessity for the realisation of the highest and best, for the comfort and progress of mankind.

I cannot close without expressing my regret at the loss the Society has sustained since our last meeting. We have lost from our midst a member who had all the possibilities of a successful career, one who, last session, took a prominent part in the debates of the Society, and who will be a missed man amongst us. I refer to Mr. James H. Cook.

The other loss is the removal of Professor Simpson from this city to a more extended sphere of work in London. To the members of the Committee who have been in constant touch with him in regard to this Society, I feel I am only expressing their views when I say his place will be difficult to fill. The care, enthusiasm and hard work he did have been of great benefit to the Society, and in parting we wish him every success and prosperity in his new and extended sphere of work.

* Address delivered by the President, Mr. J. Woolfall, F.R.I.B.A., at the opening meeting of the Session on the 12th inst.

* Mr. Woolfall is quite right. The Glasgow tram-cars are entirely free from advertisements.—ED.

EXHIBITION OF BUILDING IMPROVEMENTS, BRIGHTON.

The following are the awards made by the Jurors appointed by the Committee:—

The silver cup, to the Art Pavements and Decorations, Ltd.

Class 1.—A gold medal to the Art Pavements and Decorations, Ltd.; a bronze medal to Messrs. Meed, Bros.; a bronze medal to Messrs. Elliott and Son, of Hastings; a diploma to the Crowborough Brick Co.

Class 2.—A silver medal to Messrs. Gilkes and Son; a bronze medal to Messrs. Perry and Sons (Duke-street); a diploma to Mr. Boekbinder; a diploma to the Sussex Cement Co.

Class 3.—A diploma to the Uralite Co.

Class 4.—A gold medal to Messrs. Morris and Co.; a diploma to Mr. A. W. Loomes; a diploma to the British Challenge Glazing Co.

Class 5.—A silver medal to Messrs. Elliott, of Caversham; a diploma to the Karri Co.; a diploma to the Lift and Hoist Co.

Class 6.—A gold medal to Messrs. George Jennings and Co.; a diploma to Maughan's Geysers (E. Long and Co.); a diploma to Messrs. E. G. Brown, Ltd.; a diploma to Mr. Shoesmith.

Class 7.—A silver medal to Messrs. Yates, Haywood, and Co.; a bronze medal to Mr. Saunders, of Black Rock; a bronze medal to Elphicks Fire Alarm; a diploma to Mr. F. V. Hadlow.

Class 8.—A diploma to Mr. Phillips for photographs.

Class 10.—A diploma to Messrs. Foulger and Co.

Class 11.—A bronze medal to the Herne Hill Rustic Works.

INSTITUTE OF SANITARY ENGINEERS.

On Wednesday evening a meeting of this Institute was held at 19, Bloomsbury-square, when a discussion took place on the paper read before the Institute on February 11 on "The Biological Treatment of Sewage; some facts and figures compiled from three years' working of Bacteria Beds." by Mr. J. Freebairn Stow, Surveyor to the Uxbridge Rural District Council. Mr. W. J. Dibdin (President) was in the chair.

Mr. E. Durrent Cecil (Croydon) opened the discussion, and said the chief point he wished to refer to was as to the efficiency of upward filtration. He would like to know why upward filtration should not be a means of dealing with sewage. The action of the bacteria must be taking place both in the upward filter and in the large open beds, and if the filter in upward filtration became clogged with anærobic matter that was no great objection, because the upward filter simply became a modified septic tank.

Mr. E. R. Palmer (Beckenham) observed that the results described in the paper showed that the biological treatment of sewage adopted at Uxbridge was good, and therefore he did not see why it should be necessary for the effluent to be passed over land again. Surely if the bacteria beds were working satisfactorily this was unnecessary, and the effluent might with safety be discharged into the stream. The expense of working, however, appeared to be unduly heavy, and the figures given worked out at 8*l.* 15s. 4d. per annum per million gallons. Presumably the pumping required to lift the sewage accounted for this expense. With regard to the precipitation tank he agreed that this would help the process very much in partially preparing the sewage for the bacteria beds. He agreed with the increase in the depth of beds, and so far as upward filtration was concerned considered it was entirely a wrong principle to apply to the purification of sewage.

Mr. Martin remarked that there was little in the paper with which he could quarrel, and he felt that the various conclusions arrived at by the author were such as any fair-minded man was bound to come to. He desired to emphasise in the strongest possible way what Mr. Stow said as to the fatuity of laying down expensive works for sewage disposal and then turning them over to the tender mercies of unskilled labourers. The management of sewage farms required skill, knowledge and experience, and this fact ought to be recognised by local authorities. With regard to the loss of capacity in coarse beds, while undoubtedly solid matter could be broken down in them it was a waste of money to provide space for the distribution of solid matter or to load it up with inert material of any kind. So far as he could see the whole of the space available was required and should be devoted to the working of decomposition through the agency of bacteria. Many experts whose opinions were entitled to weight resorted to the practice of sending their liquid on to the beds without distribution, but he found himself in agreement with Mr. Stow that it was eminently desirable that every part of the bed should have its fair share of work. If there was any point on which he disagreed with the author it was with regard to the depth of the beds. He had been connected with installations in which he had only been able to get a fall of 2 ft. or 18 in., and the result had been eminently satisfactory. He was in fact now about to provide a bed with a depth of only 9 inches, and he believed the effluent would not be objected to by the rivers authority.

Mr. Griffen (Chingford) said he was in agreement with the author that burnt clay was an unsuitable medium to use in the bacteria beds. His experience of a couple of burnt clay beds was that for a time they worked admirably, but now they had gone back to nearly their original condition, and the effluent which came from them was as bad as it could possibly be. That was in spite of previous precipitation.

Mr. J. W. Chilvers (Newmarket) considered that the cost of the scheme—120,000*l.*—seemed an enormous amount of money for a population of about 12,000, and he took it that it went over a very wide area. The author had stated that the engineer was mislead as to the subsoil at Hillingdon, but seeing that the scheme took nine years to carry out, he was surprised that the engineer did not find out the nature of the subsoil by then. The author did not tell them what became of the sludge. As to no smell arising from the sewage works, his experience was that whenever they came into contact with sewage works in the ordinary way there was a smell.

Mr. Jenkins (Harlow) was struck with the expense of the working—800*l.* a year. Mr. Cecil had also told them that he was told the system was offensive.

Mr. S. Flint (Grays) pointed out that in the first scheme described there was a receiving tank capable of holding a night's flow, while in the second system there was no such tank. He suggested that some of the solid matter got broken up in the receiving tank. Even in long sewers, if there was only a slight fall, septic action would take place before the sewage got to the works where it was to be treated. He knew a place where the sewage after it reached the works was not treated at all, and was passed by the inspector. He did not think many of them were blessed with beds capable of being so well aerated at 3 ft. depth. Most of them had to have them deeper. At the same time, the beds could be made too deep, and he had found by taking samples from a bed 6 ft. deep, that the effluent from the top 3 ft. was decidedly better than that taken from the bottom, because the first 3 ft. had the better chance of being aerated.

Mr. Hadwick thought the top 3 in. of the bed was better than the lowest 3 in., as the top got more aeration, and therefore he could not understand why it was that Mr. Stow got no good results from the top 3 in. of the bed.

Mr. Hughes (Hampton) referred to the author's remarks on the distribution of sewage on coarse beds. He himself had had some experience of channels in the beds, and had no doubt that they collected the sludge. That sludge, however, had to be removed, which necessitated walking on the surface of the bed, which consolidated the surface and broke up the material. His experience was that the least the bed was disturbed the better. With regard to the bed doing its work, he maintained that it was immaterial whether the front of the bed received the sludge or whether it went all over the surface. As to upward filtration, his idea was that it should work properly if properly constructed.

Mr. Fieldhouse (Chichester) considered it would be well if they could decide on a certain type of tank for a certain type of sewage. He believed in having distributing channels for the bacteria beds. He considered that clinker was best for the beds, but some persons advocated shingle, and he would like to hear opinions on it.

The Chairman touched on various points which had been raised, and said it was well recognised that sludge was always with them, and the question was how to get rid of it in the most economical and inoffensive manner. To his mind, that was the crux of the whole question. He did not suppose there was one there who would have the slightest difficulty in getting a good effluent, but if the question was put, "How to get a minimum sludge at a minimum cost, with a minimum nuisance," there would probably be a considerable divergence of opinion. There was a thing which had occurred to him which might overcome the difficulty of sludge, but it had not yet been practically tested. He thought they might lay down stoneware flat plates in the beds, to which the sludge would adhere; these plates could easily be lifted and cleaned. With regard to the use of burnt clay, this was important, as it affected cost. He had had burnt clay beds at work for five years, and if only the clay was burnt properly, it formed an excellent material at a very cheap rate. As to the depth of the bed, he had put down a bed of only 12 in. depth, and it was satisfactory. As a general rule, it was desirable that the bed should not have water standing on it, but it was not a serious matter.

Mr. Stow in reply remarked that he was a strong disciple of Mr. Dibdin, who he considered was better entitled to speak on the subject than any man living. It was on his (the speaker's) recommendation that the system at Uxbridge was made an absolutely separate system. They were told that a certain amount of water from back yards, etc., must go into the sewer, but at Uxbridge and Henley-on-Thames, and he believed at Hampton, it was dealt with separately, and when it was a question of pumping sewage two or three times it was most necessary for the sake of economy that such a scheme of sewage should be on the separate system. With regard to the subsoil at Uxbridge, Mr. Anstie, the engineer, understood that there was no water in the ground. It was soon found that there was, but the matter was not reported to the Council, with the result that stoneware pipes were used and now the leakage was very bad, and they were replacing the pipes with iron. As to upward filtration the filter was always full, and they had not only inorganic matter in the bottom of the filter, but they had organic matter which ought to go on the bed to do its part. There was a little misapprehension as to distributing channels in coarse beds. When he came upon the scene at Uxbridge a screen chamber was being constructed, and its design was absolutely wrong, and in order to save the beds for a time they put in those channels to distribute the sewage all over the beds and to catch a certain amount of sludge which they did not require now. There was no smell in connexion with the joint drainage scheme, and part of the farm had recently been offered as building sites and had fetched high prices. As to putting the effluent for the bacteria beds over land that the Local Government Board had to answer for, and he thought when the report of the Royal Commission was given the Board would see the error of their ways. The heavy cost of working was due to the pumping. As to Mr. Martin's views on distributing channels he himself thought they were most necessary in any scheme of bacteriological treatment. As to the depth of beds he did not see how superficial area could compensate for cubic capacity. He was strongly of opinion that clinker was the right thing for bacteria beds. As to the cost of the works the primary estimated cost for the joint scheme was 26,000*l.*, but it really cost 56,000*l.*, and he had spent 11,000*l.* on it. It was most important before any scheme of sewage disposal was carried out to spend money in the examination of the subsoil of every road.

THE LONDON COUNTY COUNCIL.

The usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring Gardens, Lord Monkswell, Chairman, presiding.

Loans.—On the recommendation of the Finance Committee, it was agreed to lend Battersea Borough Council 9,514*l.* for electric lighting purposes; Finsbury Borough Council 3,691*l.* for paving works; Hammersmith Borough Council 8,455*l.* for similar works; Lambeth Borough Council 6,245*l.* for a similar purpose; Poplar Borough Council 2,040*l.* for pipe-sewer works, and Shoreditch Borough Council 8,290*l.* for street improvements and paving works. Sanction was also given to the following loans:—Islington Borough Council, 1,300*l.* for paving works, and Westminster City Council 19,298*l.* for paving works.

Proposed Rebuilding of Lambeth Bridge.—Some discussion took place on the proposed rebuilding of Lambeth Bridge, arising out of the report of the Bridge's Committee. The Committee reported as follows:—

"In considering the kind of bridge which should be erected in place of the present structure we have had due regard to the position which Lambeth Bridge occupies upon the river, and have also borne in mind the resolution passed by the Council on 15th February, 1898, that the new Vauxhall Bridge should be built of masonry. The question of the gradients practically decides whether it is to be constructed of steel or masonry. At present the gradients are very steep, being from 1 in 19 to 1 in 22 on the north, and from 1 in 20 to 1 in 23 on the south. Under an agreement entered into in 1897 with Messrs. Doulton for the setting back of their premises, the Council cannot raise the level of the centre of the road at the junction of the bridge approach with Lambeth-road and the Albert Embankment more than 3 ft. 10 in. above the present level, and as a result that height fixes the level of the commencement of the road over the bridge. Our attention has also been drawn to the fact that, even if the restrictions placed upon the Council with regard to the headways and waterways of Vauxhall Bridge were considerably relaxed in the case of Lambeth Bridge, a masonry structure could not be built with a better gradient than 1 in 25, which is about the same as the northern approach to Southwark Bridge and which, on account of its steepness is little utilised for vehicular traffic going southwards. On the other hand with a steel bridge a gradient of 1 in 30 can be obtained and better facilities for navigation afforded during construction than has been the case at the new Vauxhall Bridge. As it was most desirable that a satisfactory understanding should be come to between the Council and the Thames Conservancy Board before Parliamentary powers were sought, we submitted to the Board a drawing showing generally the possible headways and waterways, both temporary and permanent, which could be provided under a granite or masonry bridge having a road gradient not steeper than 1 in 25. As the result of a conference between the Thames Conservancy Board and representatives of the river traffic interest, certain conditions have been imposed, one of which is as follows:—'that the headway of the openings of the temporary works in the two side arches adjacent to the centre arch should not be less than 15 ft. above Trinity high-water mark.' This condition, the engineer informs us, would preclude the construction of a granite or masonry bridge with reasonable gradients. Under the circumstances, it appeared to us that there was no alternative but to erect a steel bridge, and we accordingly submitted to the Thames Conservancy an alternative sketch which has been approved so far as it relates to the headways and waterways. With regard to the width of the proposed new bridge, we have come to the conclusion that 60 ft. will prove sufficient for present and future needs. This is more apparent when it is remembered that upon the east side there is Westminster Bridge, 84 ft. in width, and upon the west side, and within a very short distance there will be the new Vauxhall Bridge, 80 ft. wide, constructed so as to carry a double line of tramway across it. We have therefore had prepared estimates upon the basis of the bridge being 60 ft. wide. In the event of an 80 ft. structure being decided upon, it would be necessary to add 33 per cent. to the cost of the engineering works. The cost of acquiring property includes what is necessary to make the road approaches either 60 or 80 feet wide; but in the event of the smaller bridge being constructed, the amount of surplus land available for disposal would necessarily be more. The estimated expenditure is made up as follows:—

New bridge	£350,000
Embankment wall and paving on wharf area	30,000
Subway to hydraulic power company's works	5,000
Approaches	25,000
Design and supervision.....	10,000
Contingencies (10 per cent.)	42,000
	462,000
Acquisition of property (gross).....	410,000
	£872,000

We would remind the Council that the temporary bridge between Lambeth and Vauxhall bridges, which now takes the traffic diverted from Vauxhall Bridge, will serve for Lambeth Bridge, and consequently it will have to remain where it is until the new bridge at Lambeth is finished. This temporary bridge is, without doubt, a serious obstruction to navigation, and its removal as soon as possible is to be desired. For this reason, in addition to those above referred to, we strongly urge the Council to seek powers for the rebuilding of Lambeth Bridge in the ensuing session of Parliament. The solicitor reports that the Council has power to make application for the purpose under section 144 of the Metropolis Management Act, 1855.

The reconstruction of this bridge was regarded as a necessity when evidence was given before a Committee of the House of Lords in the case of the London County Council (Improvements) Bill, 1900, dealing with the Westminster improvement scheme. Further, that in connexion with the Westminster improvement now in hand, the Improvements Committee have asked what levels should be fixed in respect of the work about to be carried out in Horseferry-road and Millbank-street, both of which thoroughfares form approaches to the proposed new bridge, and are dependent, therefore, for their levels upon the rebuilding of Lambeth Bridge. The design of the proposed new bridge has been prepared on the assumption that the altered level of the road at the junction of Grosvenor-road, Horseferry-road, and Millbank-street will be 9 ft. higher than the existing surface, and 6 ft. higher than the level to which the streets of the Westminster improvement can be constructed without further parliamentary powers. The Improvements Committee have informed us that the London Hydraulic Power Company and the Westminster Electric Supply Corporation have already called upon the Council to fix the levels of the new road with a view to the reinstatement of their premises. If, therefore, the new buildings in Millbank-street are allowed to be proceeded with at once at the lower level, it will be necessary to considerably interfere with them when Lambeth Bridge is rebuilt, involving, it is estimated, an additional expenditure of 100,000*l*. In addition, the value of the surplus land left over from the Westminster improvement will be seriously prejudiced, in fact, will either remain vacant until the levels can be fixed, or will be let at a considerably reduced ground rent, thus making recoupment dependent upon reconstruction of the bridge. This, we understand, will represent a considerable increase upon the 100,000*l*. above referred to, and the total capital loss to the Council may approach as much as 200,000*l*. . . ."

The Committee recommended:—

(*a*) That the standing orders of the Council, limiting the period for considering applications to Parliament, be suspended, so far as may be necessary, to enable the Council to consider the following recommendation of the Bridges Committee with reference to an application to Parliament in the session of 1904.

(*b*) That parliamentary powers be sought in the session of 1904 to enable the Council to rebuild Lambeth Bridge.

After debate, a division was taken, when 41 voted for the motion and 41 against. The Chairman explained that as it was a question of suspending the standing orders the motion could not be carried after that vote.

Rotherhithe Tunnel Construction.—The same Committee recommended:—

(*a*) That the estimate of 1,340,000*l*. submitted by the Finance Committee for the construction of Rotherhithe Tunnel, be approved, and that the Bridges Committee be authorised to incur expenditure up to that amount.

(*b*) That the Bridges Committee be authorised to prepare the specification and plans and to issue advertisements inviting tenders for the construction of Rotherhithe Tunnel.

They reported as follows on the scheme:—

"The total length of the tunnel and its approaches will be 6,883 ft., or about 1¼ miles; the external diameter will be 30 ft., or 3 ft. larger than the Blackwall Tunnel, thus allowing a carriageway of 16 ft., the same as at Blackwall, and two footways, each 4 ft. 8½ in., as compared with 3 ft. 1¼ in. at Blackwall Tunnel. The headways will be 18 ft. 6 in. at the centre of the carriageway, and 16 ft. at the channels, as compared with 17 ft. 6 in. and 14 ft. 7 in. respectively for the Blackwall Tunnel. It will be seen from these figures that the accommodation for traffic in the Rotherhithe Tunnel will be decidedly superior to that in the Blackwall Tunnel. The open approach will commence on the south side of the river at the junction of Union-road with Lower-road, direct access to the open approach being provided not only from the main thoroughfare, but also from Neptune-street, Albion-street, and Adam-street. It will be constructed along the south side of Adam-street, and will cross over the East London Railway by a bridge at Rotherhithe station. The cut-and-cover portion will extend from the railway to a point near Clarence-street, where the first shaft will be situate, and the actual tunnel construction will commence and continue to the second shaft, near the Surrey lock entrance of the Surrey Commercial Docks. From here the tunnel will pass under the river to the third shaft, which it is proposed to sink on the site of the New Star wharves, near Shadwell fish market, the fourth shaft being placed on the north side of Broad-street, just to the east of Collingwood-street. At this shaft the cut-and-cover construction will re-commence and be continued parallel to Broad-street as far as Butcher-row, at which point the open approach will re-commence and be continued by a curve to join Horseferry Branch-road. In connexion with the construction of the tunnel, a part of Horseferry Branch-road and the span of the bridge carrying the London and Blackwall Railway over that road will be widened from 40 ft. to 60 ft (in lieu of 70 ft. as originally proposed, with the result that a considerable saving will be effected); Broad-street, Medland-street, Butcher-row, and portions of Collingwood-street and Rose-lane will be widened to 40 ft. Upon the south side, Adam-street will be widened and extended to Brunel-road, and a portion of this work is now being executed by the Works Department. It is also proposed to construct underground conveniences at the entrances to the open approach on both the north and south sides. These impovements, incidental to the scheme, will undoubtedly prove of great benefit to the districts of Stepney and Bermondsey.

The drawings, specification, etc., for the work are now so far advanced as to admit of tenders being invited, but before this can be done it is necessary to obtain the authority of the Council to incur additional expenditure. In October, 1901, a preliminary vote of 4,500*l* was obtained, and in May, 1903, 4,685*l*., in connexion with the formation of the new street, referred to above, from Swan-lane to Brunel-road, was authorised to be incurred. A further sum of 1,340,000*l*. for the construction of the tunnel is required, and this will include the cost of the shafts and iron tunnels, the brick and concrete covered ways to be constructed on the cut-and-cover system, the open approaches, the bridge over the East London Railway, all the street widenings, with the exception of that now being carried out by the Works Department, and all the works complete with the exception of the entrance houses, electric light station, and the bridge and paving works under the London and Blackwall Railway.

It is estimated that the works will not be fully completed for about five and a-half years, and that during this period the expenditure incurred each year, which is based upon experience gained at Blackwall Tunnel, will be as follows:—1904-5, 150,000*l*.; 1905-6, 250,000*l*.; 1906-7, 330,000*l*.; 1907-8, 220,000*l*.; 1908-9, 220,000*l*.; 1909-10, 160,000*l*.; 1910-11, 10,000*l*."

After considerable discussion and the defeat of an amendment to refer the matter back, the recommendations were agreed to.

Fire Stations, Holloway and Eltham.—The Fire Brigade Committee recommended, and it was agreed

That the estimate of 2,050*l*. submitted by the Finance Committee in respect of the acquisition of No. 1A, Hertslet-road, Holloway, be approved; that the freehold of those premises be acquired for 2,000*l*.; that the solicitor do complete the matter; and that the seal of the Council be affixed to any necessary documents in connexion with the purchase.

That the estimate of 10,100*l*. submitted by the Finance Committee in respect of the erection of a new fire station at Holloway on the site of Nos. 80 ,82, and 84, Mayton-streeet, No. 1A, Hertslet-road, and the yard of the Holloway station be approved; and that the Fire rigade Committee be authorised to make the necessary preliminary arrangements for the erection of the building.

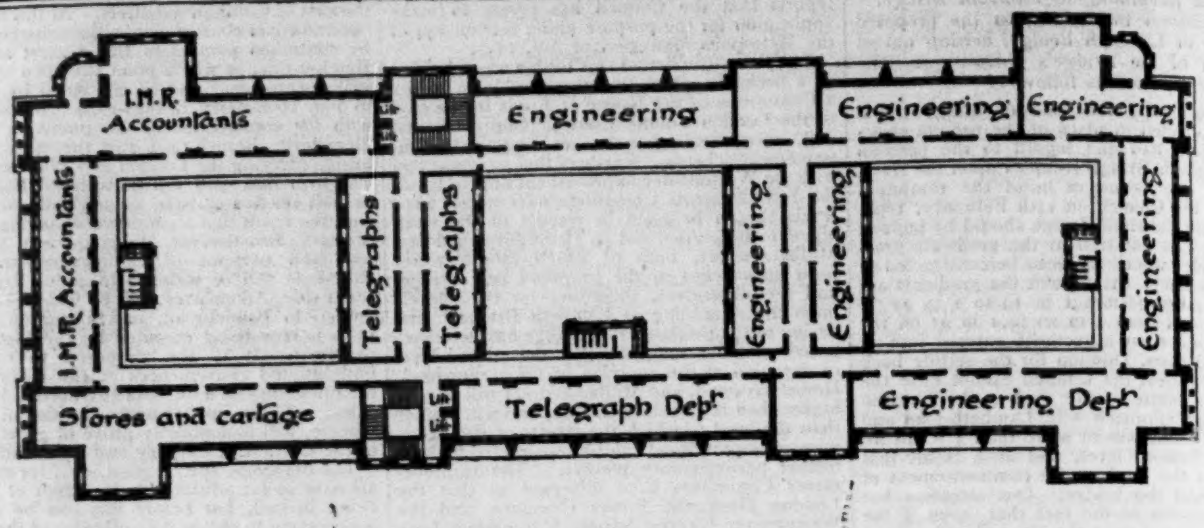
That an expenditure of 7,096*l*. for the work of erecting the Eltham sub-station be authorised; that the work be executed by the Council without the intervention of a contractor; and that the drawings, specification, quantities, and estimate be referred to the Works Committee for that purpose.

Tube Railways.—Mr. Evan Spicer asked the Chairman of the Highways Committee, in view of the recent underground railway disaster in Paris, what were the powers of the Council in regard to the supervision of the construction and working of tube railways and stations from the point of view of the public safety.

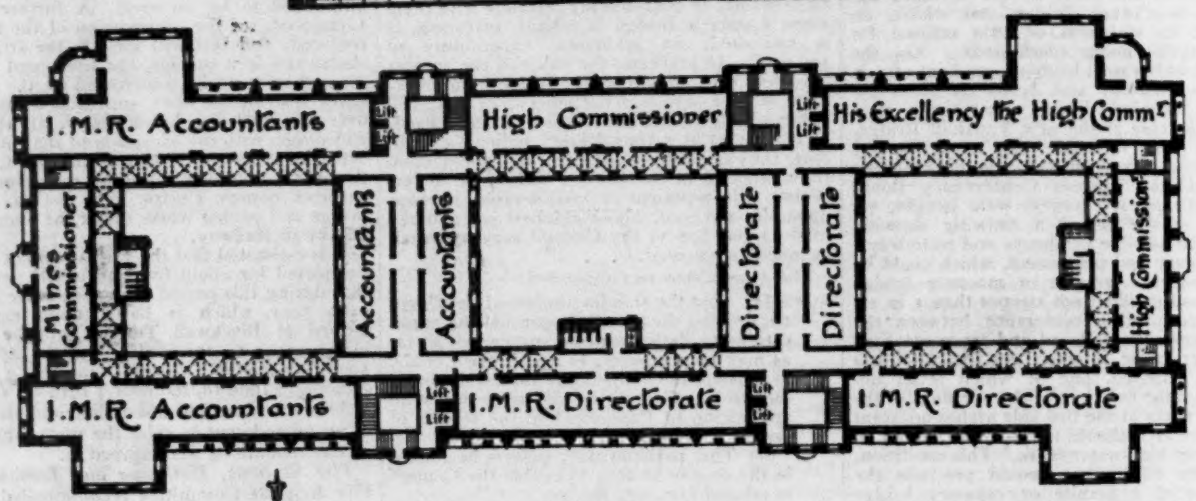
Mr. Benn, in reply, said the Council had no powers with reference to tube railways, so far as affected the safety of the public, except with regard to the approval of plans from the Building Act and Street Improvement point of view. The Board of Trade was responsible for the Tube Railways.

Main Drainage Extension: Southern Outfall.—On the recommendation of the Main Drainage Committee it was agreed that the expenditure of 1,405*l*. be sanctioned in respect of work incidental to the connexion of the new sewers with the existing outfall sewer at the Crossness outfall; and that the acceptance of the offer of Messrs. J. B. Squire and Co. to undertake the work for that amount as an extra upon their contract with the Council be confirmed.

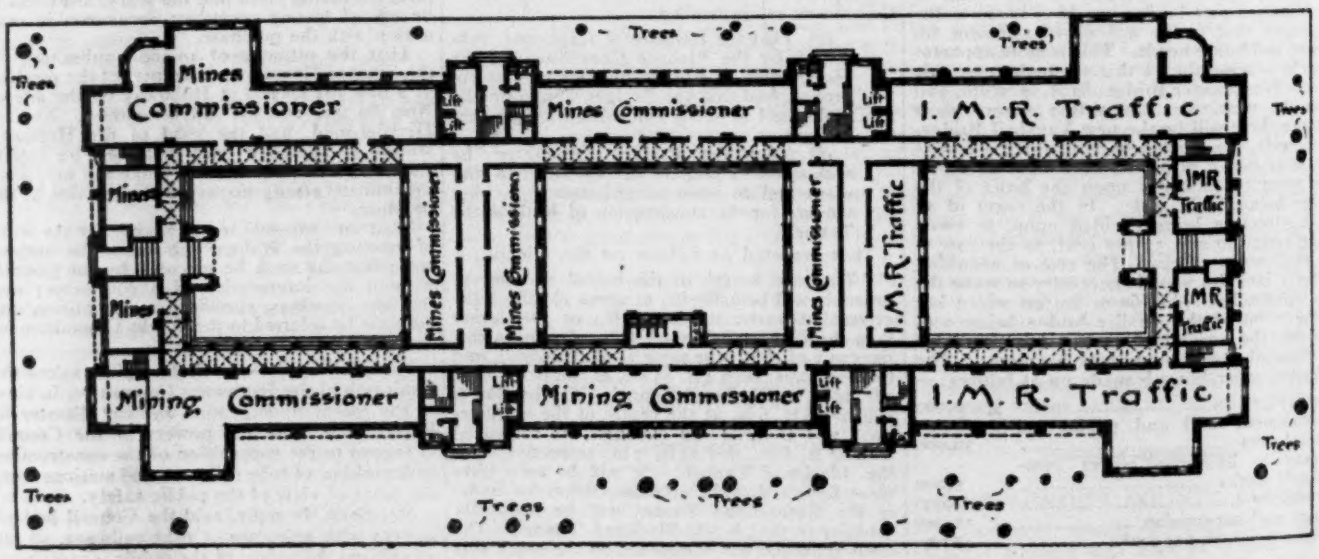
By-Laws.—The Public Health Committee,



SECOND FLOOR PLAN



FIRST FLOOR PLAN



GROUND PLAN

Government Offices, Johannesburg. Plans. [*See opposite page.*

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The motion was adopted.

The Council having transacted other business adjourned.

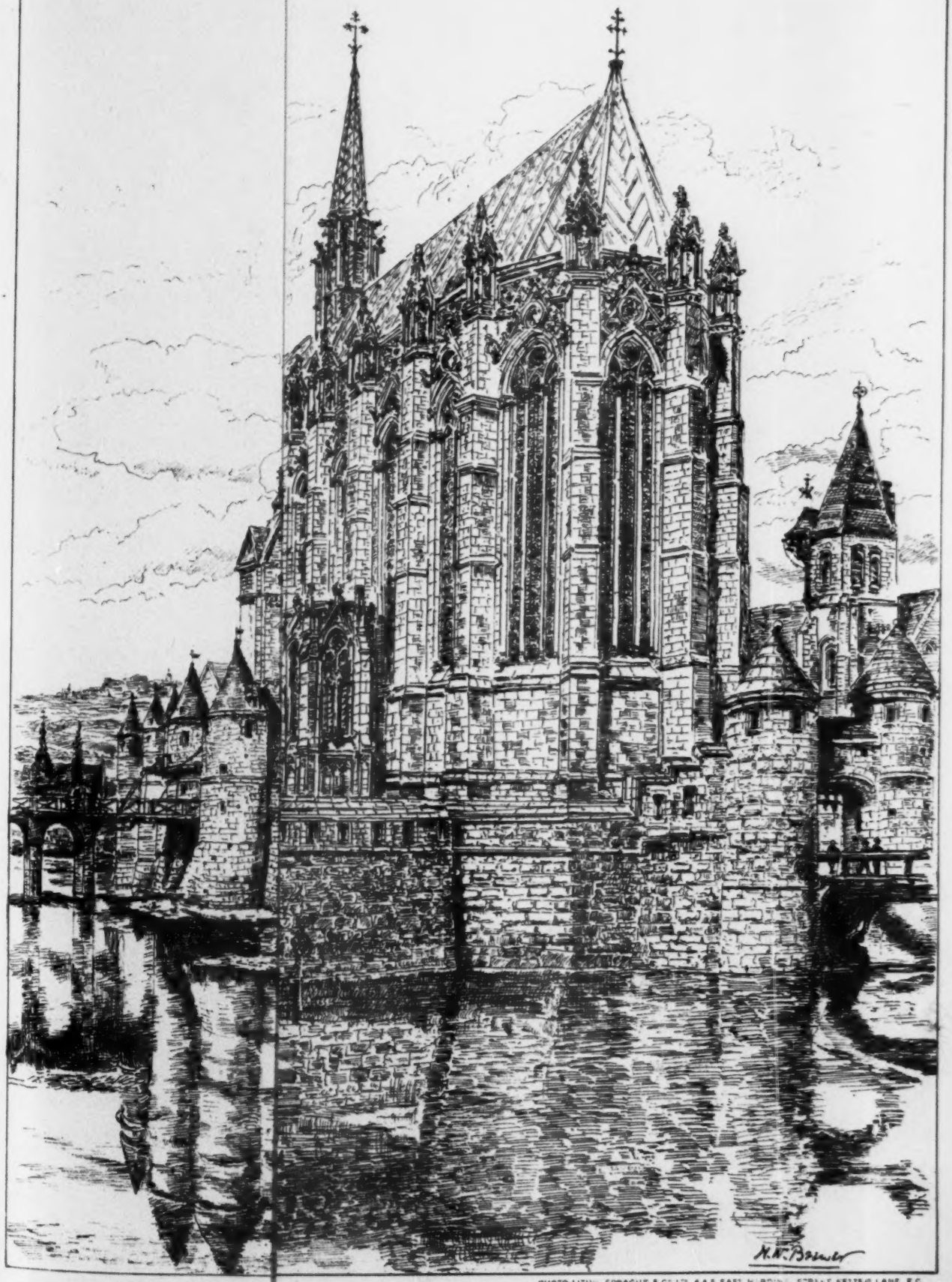

PHOTO-LITHO. SPRAGUE & Cº LTº 4 & 5 EASTCHEAP STREET, FETTER LANE, E.C.

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THE "TEMPLE," PARIS: SCENE OF THE IMPRISONME

From a Drawing by the

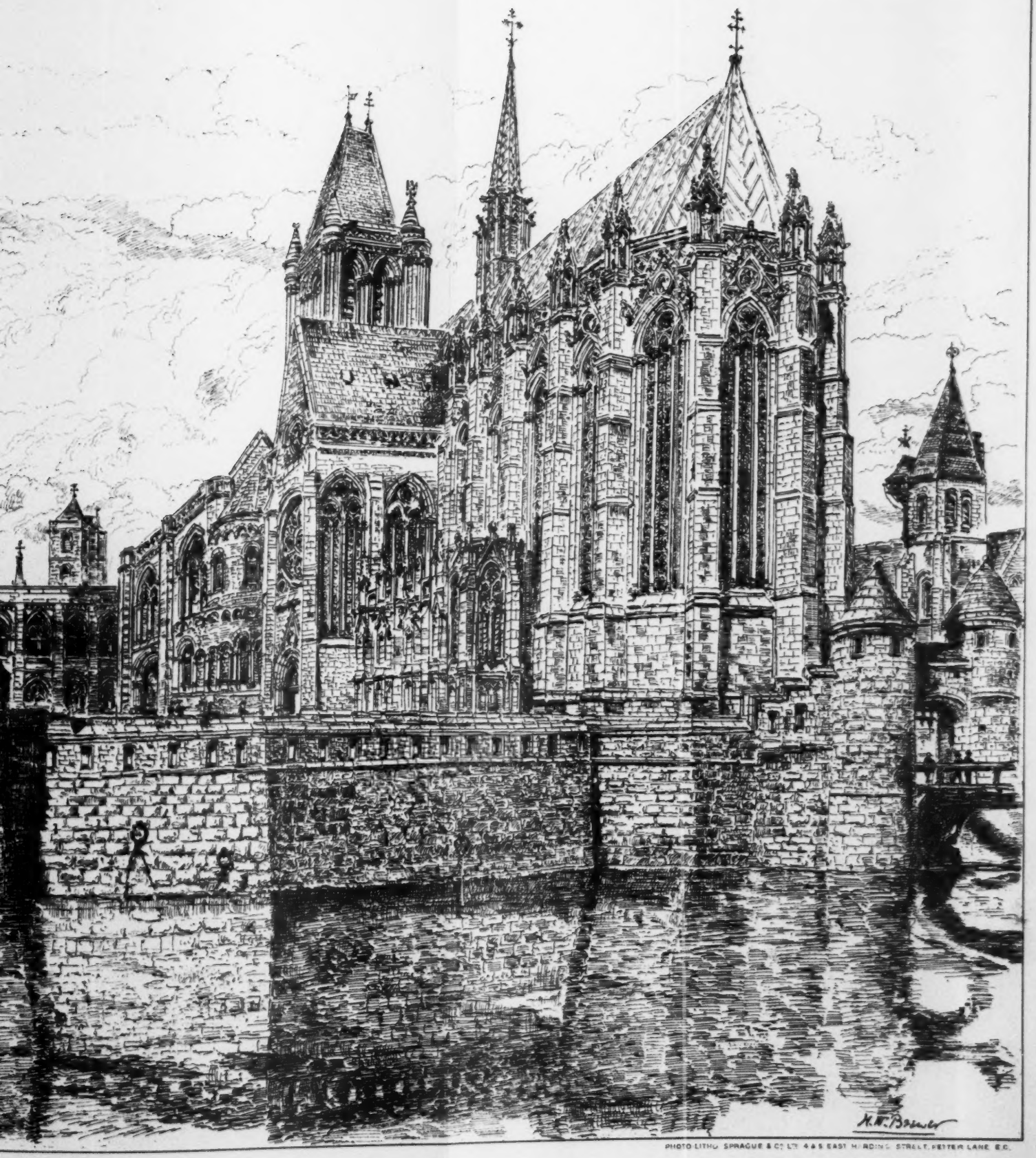
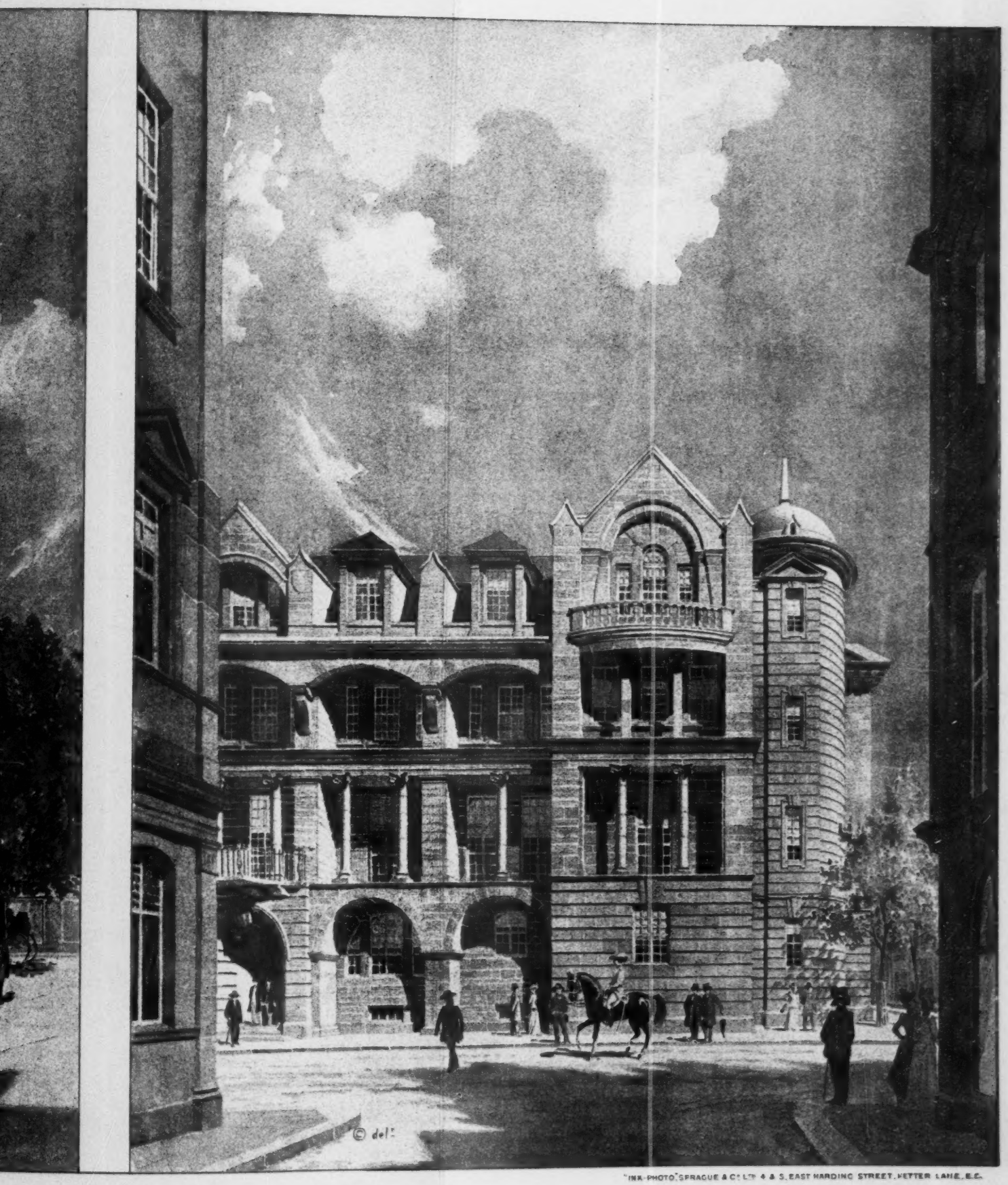


PHOTO LITHO SPRAGUE & Co LTD 4 & 5 EAST HARDING STREET, FETTER LANE E.C.

IMPRISONMENT OF LOUIS XVI. AND XVII. (NOW DESTROYED).

RAWING BY THE LATE H. W. BREWER.

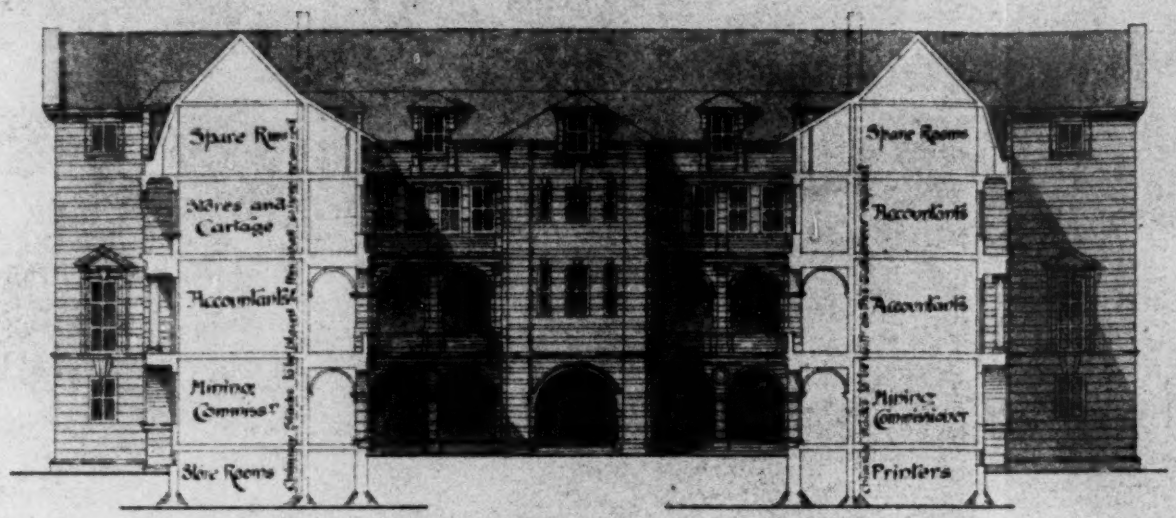
NEW GOVERNMENT OFFICES, JOHANNESBURG



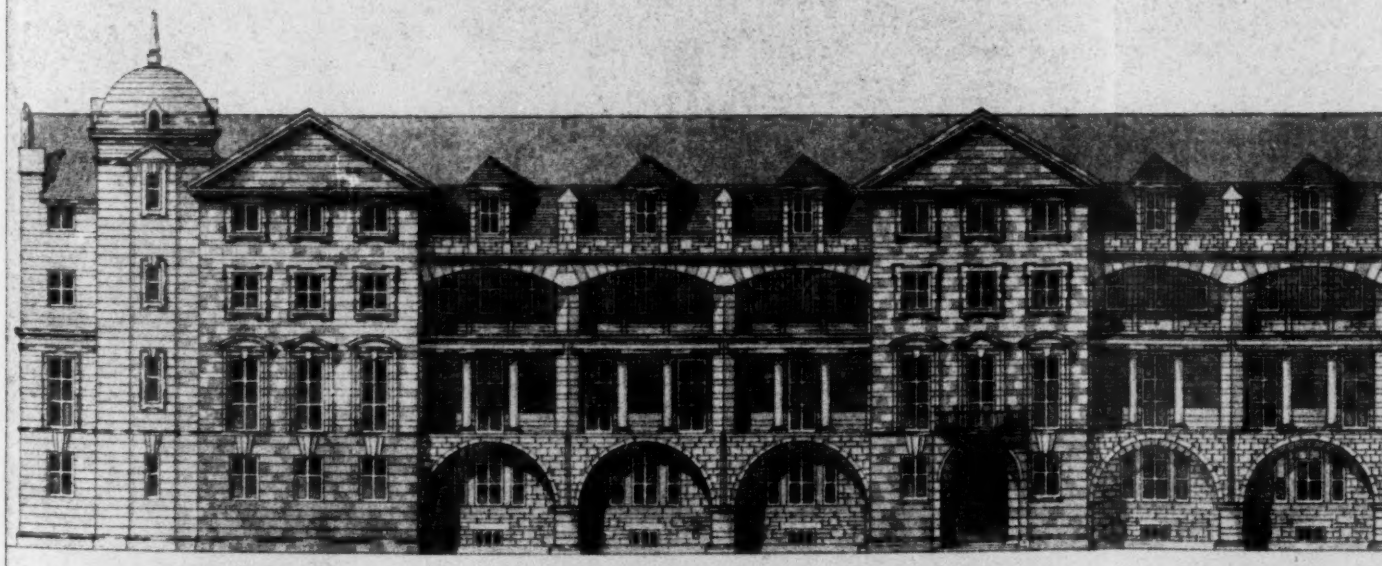
"INK-PHOTO" SPRAGUE & Co LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

ANNESBURG: EXTERIOR VIEWS.—Mr. Halsey Ricardo, Architect.

NEW GOVERNMENT OFFICES
JOHANNESBURG



CROSS SECTION



NORTH EL

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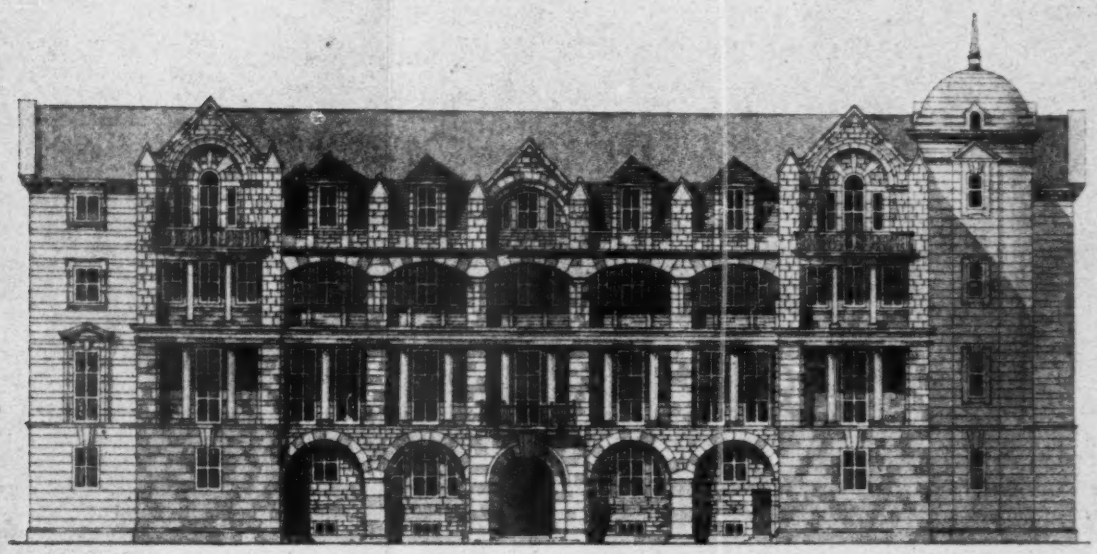
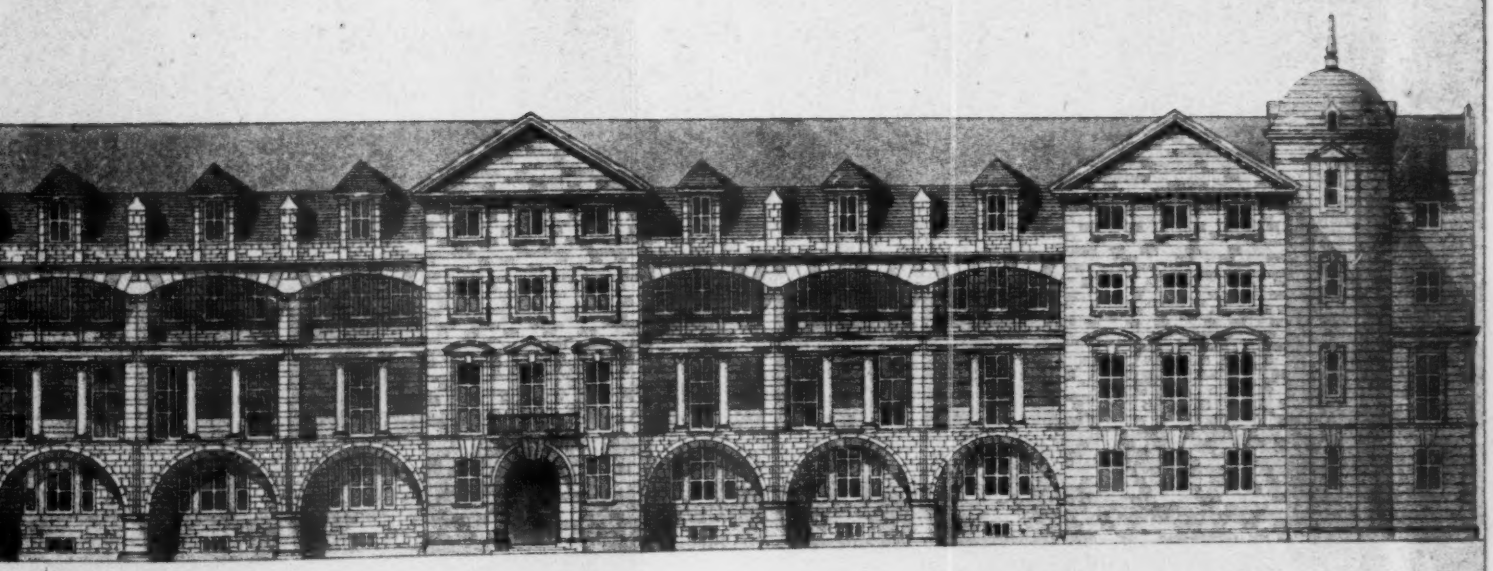


EAST ELEVATION

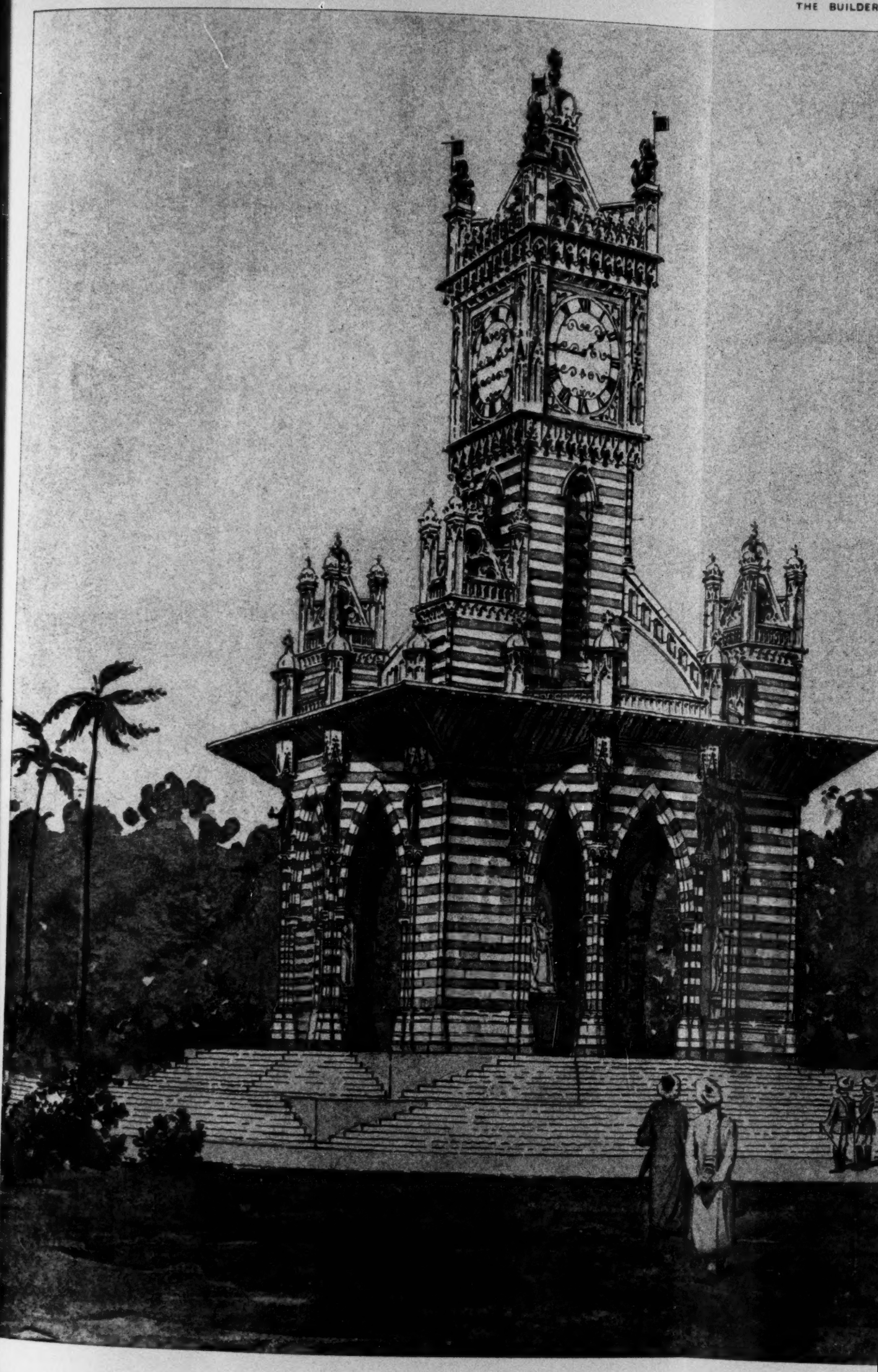


RTH ELEVATION

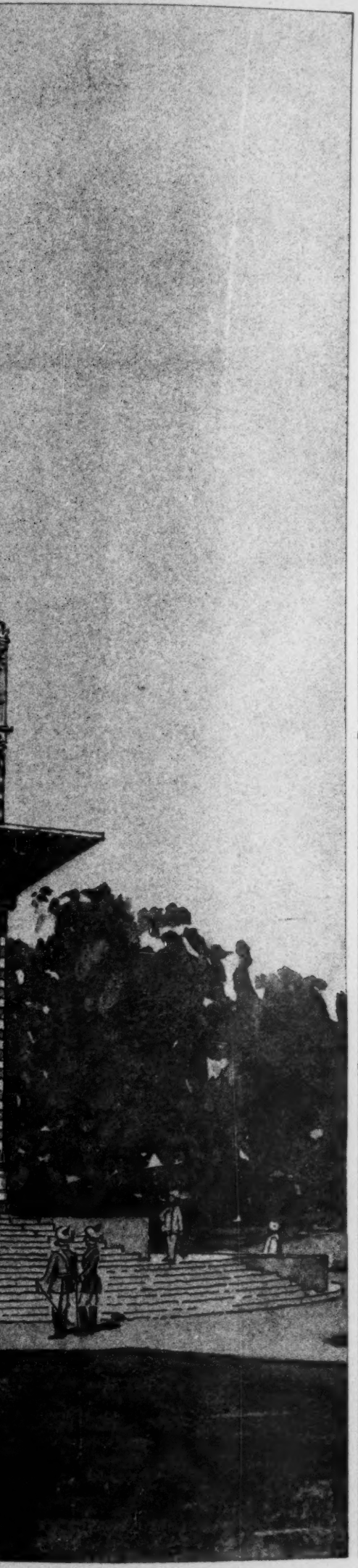
Delsey Ricardo
13 Bryanston Square
London. W.C.
December 1901.

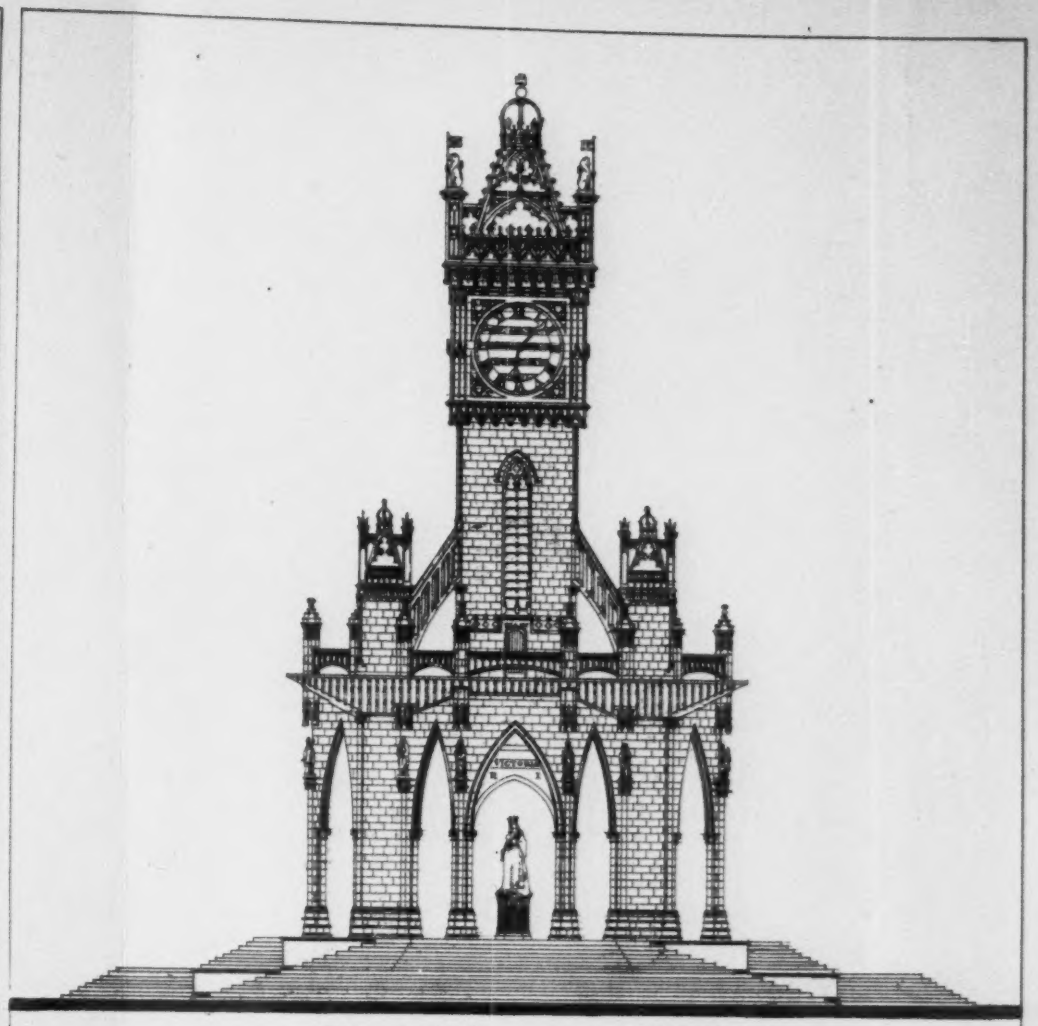
80 90 100 200 feet

INK-PHOTO SPRAGUE & Co Ltd 4 & 5 EAST HARDING STREET, FETTER LANE, E.C.

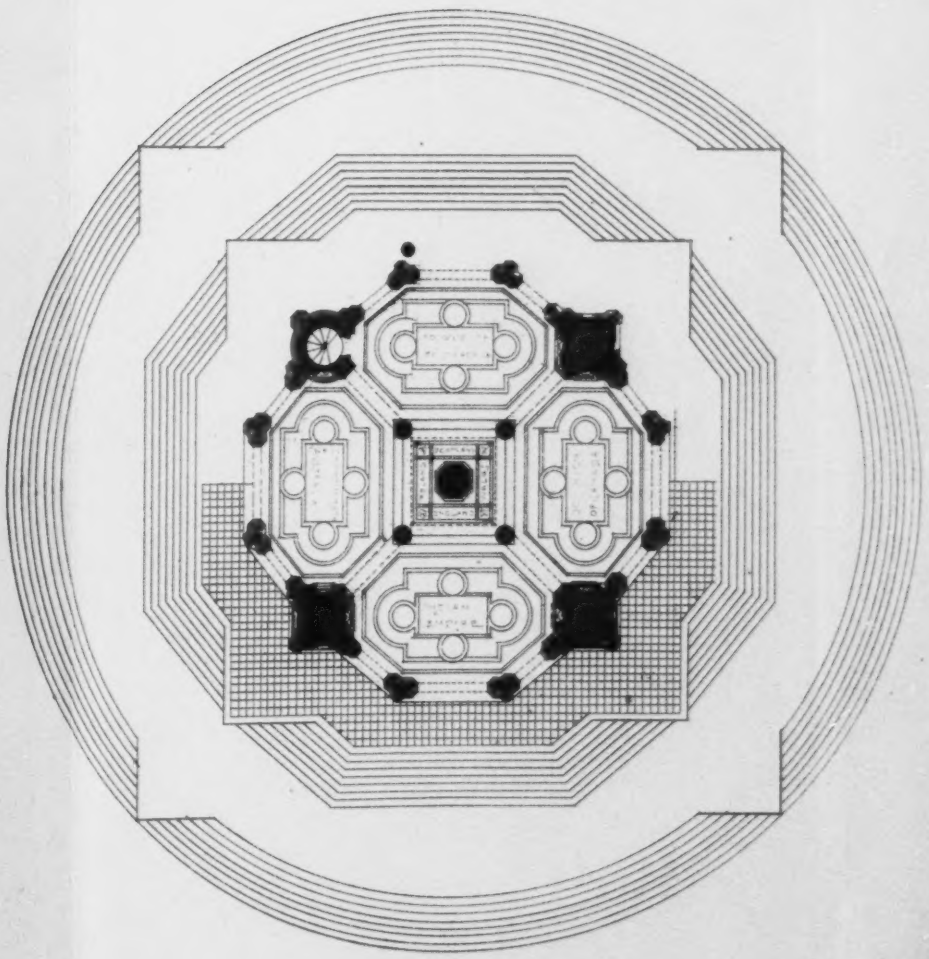


COMPETITION DESIGN FOR QUEEN VICTORIA MEM





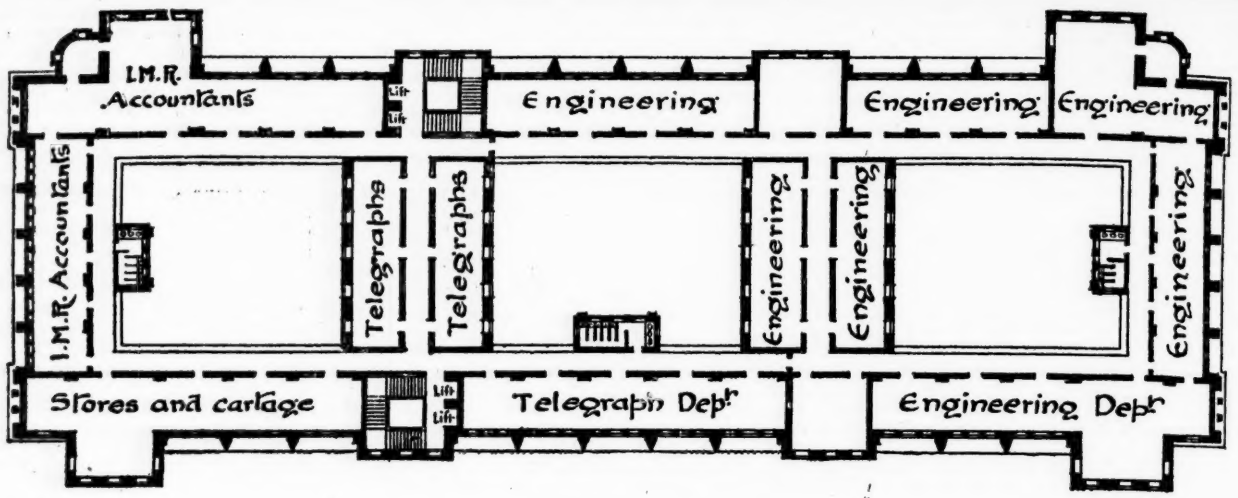
ELEVATION OF MONUMENT



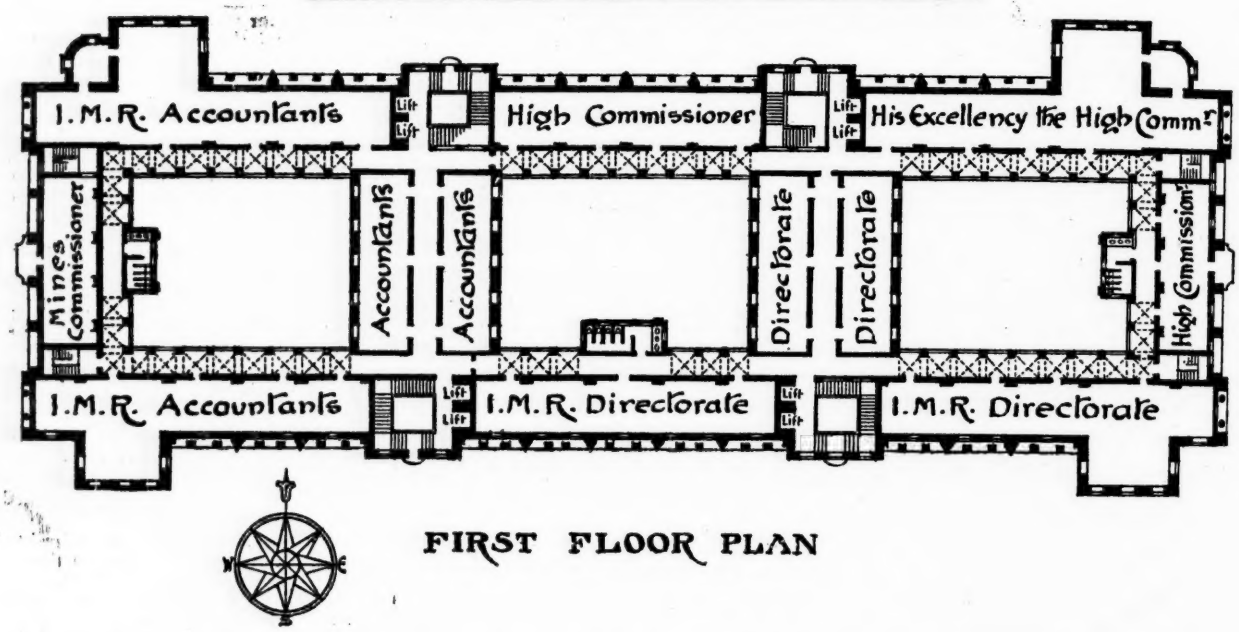
PLAN

"INK-PHOTO" SPRAGUE & Co LTD 4 & 5, EASY HARDING STREET FETTER LANE, E.C.

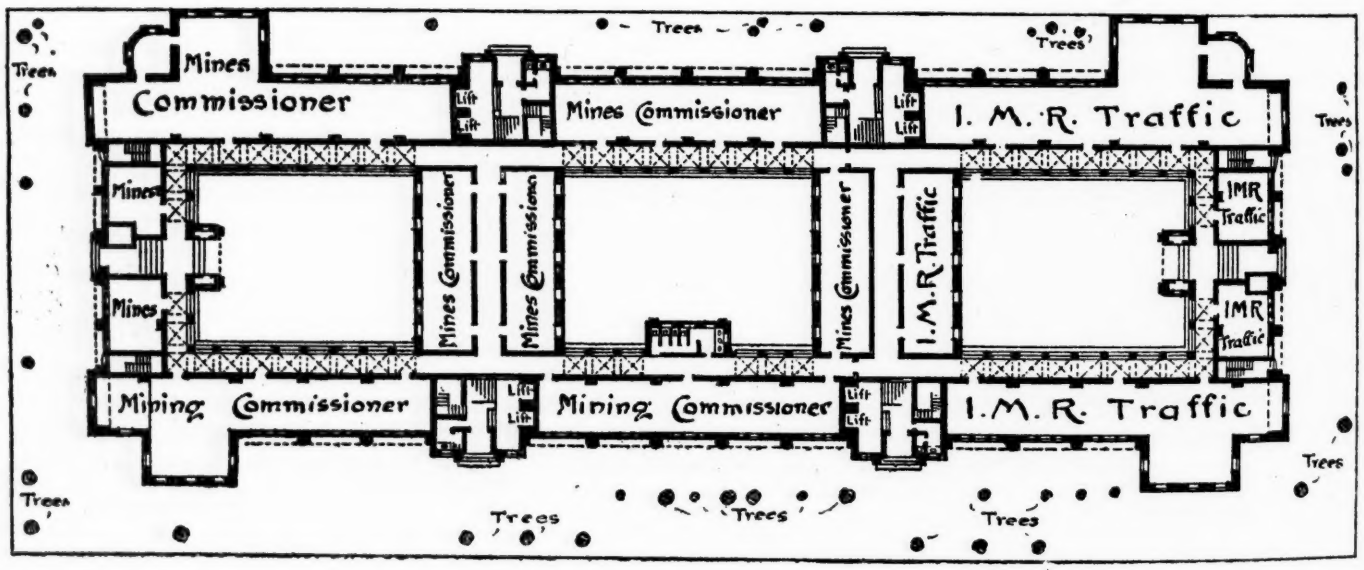
CTORIA MEMORIAL, ALLAHABAD—By Mr A. T. Bolton, A.R.I.B.A.



SECOND FLOOR PLAN



FIRST FLOOR PLAN



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The motion was adopted.

The Council having transacted other business adjourned.

Illustrations.

"THE TEMPLE," OLD PARIS.

BY THE LATE H. W. BREWER.

THIS is one of the last two drawings which Mr. H. W. Brewer made for us. It is a restoration of the ancient fortress or prison of the Temple, which formerly stood on a site between the Boulevard du Temple and the Rue du Temple. In the tower, which was not destroyed till early in the nineteenth century (the precise date seems uncertain), Louis XVI and Marie Antoinette were confined.

The site of the buildings shown in the drawing is that now occupied by the Marché du Temple and the Square du Temple. In the rear of the large church is seen the old circular Temple Church.

Owing to Mr. Brewer's lamented death, we have not his usual historical account of the site and buildings shown, which was always of interest and often contained curious and out-of-the-way information.

The water shown in the foreground no doubt represents an undrained portion of the marshes, the former existence of which gave to this part of Paris the name it still retains—"Quartier du Marais."

NEW GOVERNMENT OFFICES AT JOHANNESBURG.

THE plans illustrated are in the nature of preliminary sketch plans from instructions given to me in 1901. Owing to its high level above the sea, Johannesburg, though nearer to the equator than Cairo, enjoys a much more moderate climate. Under a nearly vertical sun, its days are hot, but the nights are cool and brisk. Accordingly, the usual features of tropical architecture are neither desired nor employed. Light in these latitudes is more brilliant and more penetrating than what we are accustomed to here in England, consequently rooms can be made deeper from back to front and with less amount of window glass. In other respects, life, so far as architecture is concerned, is much the same in the Transvaal as in the old country.

The site chosen for the offices was a public square, known as the Telephone Tower Park, and consists of rather more than 2 acres, nearly in the centre of the city. The plans provide for the different departments being housed within one building, though each department is isolated from the others and self-contained. Private entrances (four in number) on the ground floor give independent access to their quarters to the chief of the principal departments, whilst the public is accommodated by staircases and lifts from the large entrances. A third floor plan is provided for the inevitable expansion that takes place in the conduct of public offices.

The rooms are shown undivided—any division that may be required to be made subsequently; but the principle is that of large unobstructed rooms, rather than a series of individual and secluded cells.

The design is for a stone building with a slate roof, and care was taken to interfere as little as possible with the trees already growing

HALSEY RICARDO.

COMPETITION DESIGN FOR QUEEN VICTORIA MEMORIAL, ALLAHABAD.

THIS is a design which was submited in competition by Mr. A. T. Bolton.

We understand that the promoters of the competition were responsible for the combination of two such distinct ideas as a clock-tower and a statue; the design shows Mr. Bolton's conception for combining the two.

The following quotations from the Report sent in with the design explain the author's intention:—

"The design consists of a clock tower 16 ft. square and 85 ft. high to the centre of the clock face from the ground level, encircled below by an arcaded pavilion or open loggia, the base of the tower forming an inner shrine or canopy immediately above the statue. The tower supports are four massive columns of polished granite, which take the dead weight, while the four piers, 7 ft. square and spaced 28 ft. apart, which form the corners of the pavilion, buttress the angles of the tower both by diagonal arches below and by flying buttresses above, neutralising all the thrusts in accordance with the principles of Gothic construction. These corner piers are carried up and terminate in pierced open work crowns of masonry in harmony and in grouping with the central feature to which they are subordinated.

The inner shrine or canopy over the statue is cross vaulted in brick or tile work covered with gold mosaic, while the surrounding loggie are ceiled in wood ornamented at points with colouring in Indian enamel work and gilding.

A special feature was to be made of the pavement design. On the outer platform abutting upon the steps red and white sandstone in squares is used, while the treatment would become richer in proximity to the statue. Each of the four main divisions of the memorial pavilion was to be allotted to one of the four hemispheres, or main groups of the British Empire, as is indicated by the lettering on the pavement, the statue being placed in a central shrine symbolising the United Kingdom in its four constituent parts, England, Scotland, Ireland, and Wales, the characteristic badges of each occupying the angles of the paving.

Each of the four saloons or open halls (see plan) is 28 ft. long by 18 ft. wide, and contains two niches, one at each end, placed in the main piers, and intended for the reception of statues. The exterior canopied niches were for statuettes of the great viceroys and generals who have created British India. The decoration of each saloon was to be treated with special reference to the country represented, introducing coats of arms and characteristic emblems.

It was calculated that the marvellous facility of native workmanship would render the design sympathetic to Indian interpretation and to native feeling, while the avoidance of mixed detail would make the architecture satisfactory to the cultivated Englishman, by its reminiscence of mediæval art at home.

Indian material was proposed to be used exclusively, such as the white and red sandstone referred to, in the ashlar masonry and paving, and teak for the woodwork.

In the construction an endeavour was made to avoid all unnecessary material, obtaining mass only where absolutely necessary for support, the intervening spaces being covered with as light a construction as is possible, carrying out the idea of an open-air pavilion having a central statue in a permanent place of honour, with round about it four saloons for the free circulation of the public visiting the memorial and studying the statue."

COMPETITIONS.

TOWNHALL, TORQUAY.—A discussion took place at the meeting of Torquay Town Council on the 6th inst. concerning the amended recommendation of the Finance Committee in regard to the proposed new municipal buildings and public library. It was proposed that the total inclusive cost of the whole building should not exceed 20,000*l.*, being the 7,500*l.* given by Mr. Carnegie for the library and 12,500*l.* for municipal buildings. A premium of 50 guineas was to be offered to competing architects for the design placed first in merit and 30 guineas for the design placed second. The portion of the St. Marychurch-road adjoining the site at Phillips's corner was to be widened to not exceeding 60 ft.—The Mayor moved, and Mr. Kerswill seconded, the adoption of the recommendation.—Alderman Winter moved as an amendment that the matter be again referred back to the committee. There was no instruction to the architects as to the form which the free library should take, and what sort of building it should be. The town hall and library should correspond with one another, and it should be considered whether a building for secondary education purposes should not form a portion of the same block. If they were going to have a new town hall, for goodness sake let them have a decent one.—Alderman Beavis, seconding, regarded the scheme as premature, and objected to it chiefly on financial grounds.—Alderman Bovey regarded the premiums offered as totally inadequate to induce first-class architects to compete for designs.—The amendment to refer the matter back to the committee was carried.

OLD BLUE-COAT SCHOOL, LIVERPOOL.—Mr. Honan, in whose name we published the illustrations of the above building last week, writes to say that the name of Mr. Stanley Hewitt should also have been given, the measured drawings having been their joint production.

SCHOOLS, BARRY.—At a special meeting of the Barry Education Committee recently, the architect (Mr. G. A. Birkenhead) was directed to prepare a sketch plan of the proposed alterations to St. Paul's School, for the accommodation of girls and infants; also, as soon as a site had been secured, to prepare plans of a new school at Barry for the accommodation of 350 or 400 boys.

ENGINEERING SOCIETIES.

THE INSTITUTION OF CIVIL ENGINEERS.—The Council of the Institution of Civil Engineers have, in addition to the medals and prizes given for communications discussed at the meetings of the Institution in the last session, made the following awards in respect of other papers dealt with in 1902-3:—A Telford Gold Medal to George Deuchars (London); Crampton Prizes to A. B. Brady (Brisbane) and G. Maxwell Lawford (London); Telford Premiums to J. Johnston Bourne (Tientsin), K. H. Rhind (London), H. T. Hincks (Marikuppam), G. A. Hobler (Cairns), A. J. Goldsmith (Brisbane), F. H. Frere (Derby), R. Appleyard (London), P. Hamilton, B.Sc. (London). For students' papers the awards are:—The "James Forrest" Medal and a Miller Prize to Waude Thompson (Burton-on-Trent); the "James Prescott Joule" Medal and a Miller Prize to I. V. Robinson (West Hartlepool); Miller Prizes to H. A. Bartlett (London), J. D. Morgan (Glasgow), H. S. Watson (London), J. V. Thomas (Gloucester), O. B. Rattenbury (Doncaster), and C. M. Skinner (Newcastle-on-Tyne).

APPLICATIONS UNDER THE 1894 BUILDING ACT.

THE London County Council at their meeting on Tuesday dealt with the following applications under the London Building Act, 1894. The names of applicants are given between parentheses:—

Lines of Frontage and Projections.

Hampstead.—A one-story bay window, with a wooden cornice, and a brick and wood portico, in front of a proposed house on the north-east side of Finchley-road, Hampstead, westward of Frognal-lane (Messrs. C. Saunders and Son for Dr. Burnett-Smith).—Consent.

Hampstead.—A wood and glass addition over the portico at No. 2, Merton-road, Hampstead (Mr. E. S. Barr for Mrs. Beningfield).—Consent.

Islington, North.—A porch, with a three-story bay window over, in front of the office of the Royal London Friendly Society, adjoining No. 34, Junction-road, Islington (Messrs. Holman and Goodrham for the Society).—Consent.

Westminster.—A projecting doorway at a new entrance to a building on the north side of Great Peter-street, Westminster, eastward of St. Ann's-street (Mr. W. Flockhart for Messrs. Burroughes and Watts, Ltd.).—Consent.

Westminster.—One-story shops in front of Nos. 129 and 131, Victoria-street, Westminster (Mr. J. Eden for the Aërated Bread Company, Ltd.).—Consent.

Width of Way.

Woolwich.—That the application of Mr. F. Mitchell for an extension of the periods within which the erection of a two-story addition at the rear of Nos. 87 and 88, Beresford-street, Woolwich, was required to be commenced and completed, be granted.—Agreed.

Woolwich.—Four buildings on the west side of Pound-place, Eltham, to abut also upon Back-lane (Messrs. Whistler and Worge).—Refused.

Newington, West.—Three dwelling-houses on the north side of Hurlbutt-place, Newington, south-eastward of the "Ship" public-house, Newington-butts (Mr. J. Farrer for Mr. E. A. Cox).—Refused.

Width of Way, Lines of Frontage, and Projection.

Marylebone, West.—That the application of Messrs. J. Kelly and Son on behalf of Mr. J. Smith, for an extension of the periods within which the re-erection, with a projecting oriel window in Duke-street, of the "Lord Clive" public-house, No. 22, Duke-street, Manchester-square, St. Marylebone, abutting upon Edward's-mews, was required to be commenced and completed, be granted.—Agreed.

Strand.—A porch to the entrance to Nos. 104 and 105, Jermyn-street, Westminster (Mr. F. W. Roper for the Trustees of the Royal Society for the Prevention of Cruelty to Animals).—Refused.

Westminster.—A church, with towers and porch, upon the site of Nos. 18, 19, and 20, Montpelier-place, and Nos. 1, 2, and 3, Alfred-place, Westminster (Messrs. Rees and Boehmer for Baron Sir John H. W. Shröder).—Refused.

Space at Rear.

Mile-end.—Modification of the provisions of section 41, with regard to open spaces about buildings, so far as relates to the proposed erection of the "Black Boy" inn, and a shop adjoining, with stabling at the rear, on a site on the north side of Mile-end-road, westward of Globe-road (Mr. W. Husband for Mrs. E. A. Coake).—Consent.

Wandsworth.—That the Council do make no order on the application of Mr. E. Cannell on

behalf of Mr. W. McMahon for consent to the erection of a dwelling-house on land at the rear of houses on the south side of Quill-lane, Putney.—Agreed.

Wandsworth.—That the Council do make no order on the application of Messrs. Bartlett and Ross on behalf of Mr. W. McMahon for consent to the erection of a dwelling-house on land at the rear of houses on the south side of Quill-lane, Putney.—Agreed.

Lines of Frontage and Space at Rear.

Hampstead.—Five blocks of flats upon a site abutting upon the south side of Dennington Park-road and west side of Kingdon-road, Hampstead, with projecting bay windows and turret, and with irregular open spaces at the rear (Mr. C. H. B. Quennell for Mr. A. Bretzfelder).—Refused.

Width of Way, Line of Frontage, and Construction.

Rotherhithe.—An iron bridge to connect premises on the north and south sides of Shad Thames, Rotherhithe, eastward of Curlew-street (Messrs. Gelder and Son for Messrs. A. and P. Keen).—Refused.

Line of Frontage and Cubical Extent.

Southwark, West.—The erection on the site of Nos. 15 and 17, Burrell-street and No. 2, Chancel-street, of an addition to Nos. 19 to 23, Burrell-street, Southwark, the building, with additions, to exceed in extent 250,000 but not 450,000 cubic feet, and to be used for the purposes of lithography and colour printing (Messrs. C. Bell, Withers, and Meredith for Messrs. N. Lloyd and Co.).—Refused.

Southwark.—Projecting wooden shutter casings to Nos. 19 to 23, Burrell-street, and a proposed building on the site of Nos. 15 and 17, Burrell-street and No. 2, Chancel-street, Southwark (Messrs. C. Bell, Withers, and Meredith for Messrs. N. Lloyd and Co.).—Consent.

Formation of Streets.

Hackney, South.—A deviation from the plan approved for the formation of two new streets for carriage traffic to lead from Ashenden-road to Marsh-hill, Homerton, so far as relates to an alteration in the gradient of the easternmost street (Messrs. A. and A. and A. E. Simpson).—Consent.

Wandsworth.—A deviation from the plan approved for the formation of a street, to be named Pirbright-road, to lead from Wimbledon Park-road to Replingham-road, Wandsworth (Mr. J. M. Jones for the Lands Development Syndicate).—Refused.

Means of Escape at the Top of High Buildings.

Kensington, South.—Means of escape in case of fire, proposed to be provided on the fifth and sixth floors of blocks Nos. 4 and 5, Oakwood-court, Addison-road, Kensington, for the persons dwelling or employed therein (Messrs. Rolfe and Matthews for Messrs. Jones Bros.).—Consent.

St. George, Hanover-square.—Means of escape in case of fire, proposed to be provided on the sixth and seventh stories of No. 15, Hanover-square, St. George, Hanover-square, for the persons dwelling or employed therein (Mr. P. Hoffmann for Mr. H. O'Brien).—Consent.

Strand.—Means of escape in case of fire proposed to be provided on the fifth, sixth, and seventh stories of the new Gaiety Restaurant, Strand, for the persons dwelling or employed therein (Messrs. E. Runtz and Ford for the New Gaiety Restaurant and Hotel Company, Ltd.).—Consent.

Buildings for the Supply of Electricity.

Greenwich.—Two cooling towers at the Stowage, Deptford (Mr. G. A. Lansdown for the London Electric Supply Corporation, Ltd.).—Consent.

City of London.—A deviation from the plans approved for the construction of five-story office building on the site of Nos. 82, 83, and 84, Fenchurch-street, City, so far as relates to the addition of a gable (Mr. W. E. Clifton for the Charing Cross and Strand Electricity Supply Corporation, Ltd.).—Consent.

Dwelling-houses on Low-lying Land.

Rotherhithe.—Four dwelling-houses on low-lying land, situated at the rear of Nos. 18, 19, and 20, Rebecca-terrace, Gomm-road, Rotherhithe (Messrs. Stock, Page, and Stock for Mr. W. G. Wells).—Consent.

Lambeth, North.—A dwelling-house on low-lying land situated at No. 16, New Cut, Lambeth (Messrs. Flood and King for Messrs. Grogan and Ruscoe).—Consent.

TRADE CATALOGUES.

Messrs. Peirson and Co., of London, send us a catalogue describing their patent "Joly" system of steel construction, which is suitable for employment in staircases, verandahs, roofs, light bridges, columns, and other details. The greater part of the present catalogue is devoted to illustrations of various types of staircases, and in applying the system to such construction the solid stringers usually employed are replaced by stringers formed of wrought iron flat bars forged to shape and, together with cast-iron "ferrules," or struts as they really are, built up into a lattice pattern. Every part subject to tensile strain is of forged wrought iron. Besides being applicable to situations in which the erection of an ordinary staircase would be difficult or impossible, the system appears to possess considerable merit, from a constructional as well as from an artistic point of view. It is suggested that "decorative appearance" may be obtained to any extent by building into stair stringers foliated metal work as shown by designs in the catalogue. As might be expected, most of these "decorative designs" simply spoil the elegance naturally possessed by this mode of construction, and our readers will do well to judge for themselves as to the most suitable architectural treatment for individual cases.

The St. Pancras Ironwork Co., of London, send us a copy of the new edition of their catalogue, descriptive of fire escape staircases and general ironwork. Among new features in this book we may mention again their form of non-slipping stair tread, consisting of a steel plate embedded in concrete, in the wearing surface of which a series of leaden rings is inserted. The steel plate imparts great strength, and even if the concrete were fractured, the tread could not give way as a whole. The slabs are adapted for use on wood or stone steps, and can be utilised for the renovation of worn-out or slippery staircases at moderate cost.

The Associated Portland Cement Manufacturers send us an illustrated pamphlet relative to various standard brands of Portland cement manufactured at the works of the association. This corporation at present owns some thirty cement works, of which twenty-eight are situated on the Thames and Medway, and an idea of the gigantic nature of the operations conducted may be gathered from the statement that the production of the association exceeds 1,250,000 tons of cement per annum. The book now issued is largely devoted to the enumeration of engineers and authorities to whom cement has been supplied, and it contains a number of excellent photographic views representing such undertakings as the Forth Bridge, the Nile Dams, the Birmingham Corporation Waterworks, and others, where the company's cement has been employed.

Messrs. A. Ransome and Co., of Newark-on-Trent, send us their general catalogue (1903), a volume that now includes 256 quarto pages, and constitutes a most complete epitomé of wood-working machinery and auxiliary plant. We have referred on previous occasions to the details of some machines described in former editions, and it would be impossible within the space available to give an adequate idea of the extensive range of appliances covered by this catalogue, which, as usual, is well-printed and contains one or more illustrations on practically every page.

Messrs. John Harper and Co., Willenhall, send us their illustrated price list of compressed steel brackets, hat pegs, etc. Most of the brackets are simple and suitable in design, strength and fitness being evidently sought for rather than the unsuitable so-called "ornamental" work which we too often see. As far as one can judge from illustrations, we can recommend these articles. In the separate catalogue of what are called "artistic" hat pegs there is a little too much of the attempt to be artistic by twisting things into unexpected shapes. Simplicity is the best art in objects of this kind, and Nos. 1,724 and 1,772 are better than the more eccentric shapes.

We have received from Messrs. Johnson and Phillips, of Old Charlton, Kent, a price list of flexible wire for use in electric wiring. It is of the greatest importance in wiring buildings only to use the very best quality flexible for electroliers and fittings, and so we are glad to notice that Messrs. Johnson and Phillips are manufacturing 2,500 megolim grade wire for this purpose. We can recommend this price list to all engaged in electric installation work.

Messrs. Johnson and Phillips have sent us also their catalogue of junction boxes for all kinds of electric cables. An inspection of this catalogue will show the great improvements that have recently been made in this kind of apparatus. We were specially struck with the type of mains fuse-box supplied to the Ipswich Corporation. An ingenious application is made of the same principle that is used in the diving-bell. The fuse is always kept perfectly dry, but at the same time a free escape is provided for the gases in the event of a fuse "blowing." The junction boxes for three-phase and triple concentric mains are very simple and effective in their design, and should popularise the use of such cables, as the making of junctions by their means is very easy.

Correspondence.

THE LATE MR. BREWER.

Sir,—As an old subscriber to the *Builder*, permit me to accord to yourself, and to his many admirers, my sincere sympathy in the loss we have sustained by Mr. H. W. Brewer's death. I, for one, always looked forward with keen interest (to what always turned out to be keener delight) when any coming drawing of his was announced, and not a few of my journeys abroad have been influenced for good by them; notably, by the sketch of Rothenburg and its curious old bridge, which catches the whole spirit of the place. One would, indeed, be ungrateful to forget all the pleasures received from his work for so many years. His delineation of the picturesque quaintness of old German architecture will always remain with us as a precious inheritance, and the list you propose to give us of his works will strengthen that sense of obligation we all owe to his memory. "Old Oxford," "Old Paris," and, specially, the beautiful composition called "Deserted," are works that will abide, and we are all the poorer that never again shall we have the pleasure of anticipating such charming efforts of his genius and his wonderful powers, both of observation and delineation.

Producers of pretty pictures are common enough. Mr. Brewer produced drawings full of archæological and historical research—possessing anatomy, muscle, and a beautiful skin over all that explained the architecture as he saw it, and obscured only that which was well to be left alone. His power with the brush was also very great, but his black-and-white work in his own groove may be equalled, but will hardly, if ever, be surpassed.

E. Swinfen Harris.

"CONSTRUCTION OF DRAINS."

Sir,—With reference to Mr. Armstrong's letter in last week's *Builder*, I consider the decision of the Sheffield stipendiary referred to is entirely wrong. I have frequently adopted the system of collecting several rain and waste pipes to one common gulley-trap by continuing the pipes underground, and I hope to treat a good many more in this way.

If Mr. Armstrong will refer to pages 64 and 65 of the "Annotated By-laws as to House Drainage," published by the Sanitary Publishing Co., 5, Fetter-lane, E.C., he will find the point in question fully dealt with.

Robert Wood, Mem. San. Inst.

WANTED—A BOX-SHAPED WHEELBARROW.

Sir,—Can any of your readers give particulars of a box-shaped wheelbarrow, to hold one-fifth or one-sixth of a cubic yard of broken road stone; to tip sideways from a plank laid from the wharf, across the hold of a barge lying alongside?

A more exact method of measuring the material loaded than can be got by using the common navvy barrow is what is desired.

W. H. Bensted.

The Student's Column.

CONCRETE-STEEL.—XVI.

TYPICAL FORMS OF BEAM DESIGN.

Detailed discussion of the principal types of the almost endless variations that could be made in the design of concrete-steel beams is scarcely necessary. If we have succeeded in the endeavour to make clear the fundamental principles underlying the theory of concrete-steel, and some of the rules suitable for use in general practice, the reader should have no difficulty in dealing with any type of concrete-steel beam hitherto mentioned, or in designing beams of the same material in other types that are fully discussed in text-books on constructional steelwork.

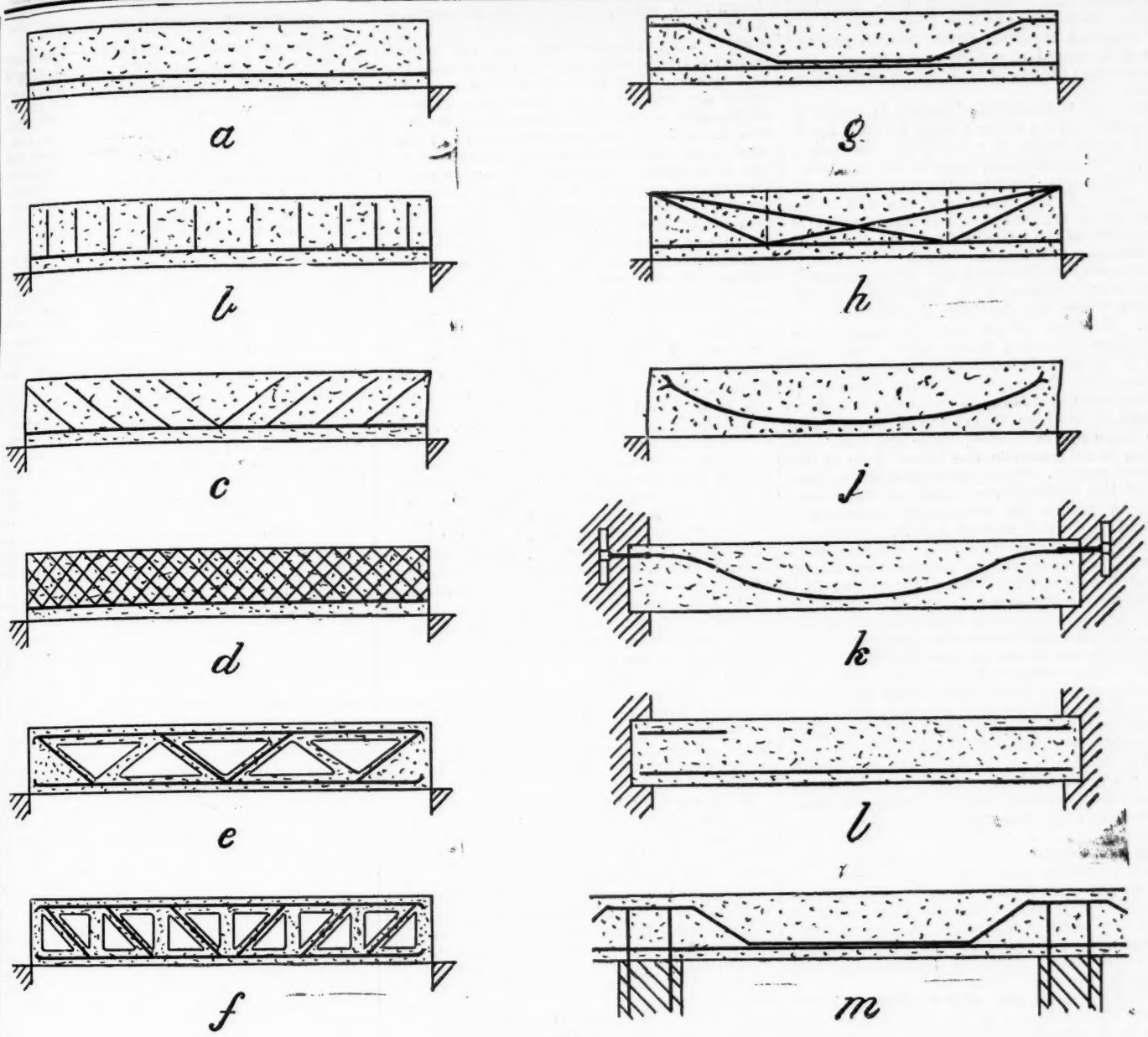

Fig. 31.

Illustrations to Student's Column.

Before leaving the present part of our subject, however, it will be useful to add a few notes relative to different primary forms of design suitable for general adoption, and without reference to the distinctive systems advocated by various patentees and manufacturers.

For the purpose of making these notes more intelligible, we give in Fig. 31, a series of diagrams representing different methods of applying reinforcement. Some of these methods have already been discussed, and others have not yet been mentioned. In addition to illustrating the present article, the diagrams embody a summary which will probably be found useful for reference, although, of course, it does not cover all possible types of construction.

In *a* we have the simplest possible form for a supported concrete-steel beam, with horizontal reinforcement, consisting of one or more bars placed near the bottom of the beam, for resisting tensile stress. Compressive and shearing stresses are taken by the concrete without assistance.

In *b* a similar beam is represented, but shearing stress is here resisted wholly or in part by vertical ties or stirrups. This auxiliary reinforcement can be formed of round rods, or of flat strips of steel, as may be preferred.

In *c* the main reinforcement is the same as *b*, but the auxiliary reinforcement is placed diagonally, for reasons that have been fully discussed, and its function is to withstand tension resulting from shearing stress on diagonal planes in the concrete, while compression similarly resulting from shearing stress is resisted by the concrete alone.

In *d* we have a suggested method of applying expanded metal for taking stresses arising from shear. The metal can be applied in the form of separate sheets, the lower edges wrapped round the outer rod of the reinforcement on each side of the beam; or in the form of a trough, the bottom of which would lie under the longitudinal reinforcing rods. In the latter arrangement part of the tension due to bending moment would be carried by the expanded metal. The main reinforcement is disposed similarly to that in previous examples.

In *e* the beam is designed on the principle of the "Warren" girder. Both the top and the bottom flanges are reinforced, the latter with more metal than the former; the diagonal web members in tension are reinforced; but the diagonals in compression rely upon the concrete for the necessary resistance. This beam is a framed structure, consisting of clearly defined flanges and diagonals as shown in the drawing. If made solid it would be practically similar to the beam represented in *c*.

In *f* is shown another type of framed beam, designed on the principle of the Linville truss, and it should be noted that the spacing of the tension members of the web is one-half that of similar members in the "Warren" type. If this beam were made solid, it would, like *e*, become equivalent to the beam illustrated in *c*.

In *g* is a type of design not yet considered. Here we have longitudinal horizontal reinforcement, consisting of one or more bars near the bottom of the beam, and additional reinforcement consisting of one or more bars bent in an upward direction near the supports. The horizontal part of the latter reinforcement is shown above the first mentioned bars for the sake of clearness, but it may be situated in the same horizontal plane if desired. The concrete, acting in conjunction with the steel bars, practically forms a trapezoidal, or queen-post, truss. This is a very strong type of construction, and the stress in the bent bar or bars can be ascertained by adapting rules contained in ordinary text-books.

It may be sufficient in many cases to rely upon the concrete to take the place of the usual struts, and to bind together the different elements of such a beam, but more satisfactory results will be obtained by the use of vertical reinforcement for this purpose. The diagonal ends of the upper bars here take a portion of the tension due to shearing stress, and if vertical or diagonal ties be used, it will probably be safe to calculate that one-half of the tension is already carried by the bent ends of the second series of longitudinal bars.

In *h* we have a development of the simple triangular truss, sometimes described as the "Bollman" truss. This form of braced girder is less suitable for concrete-steel than some other types, because the ties are necessarily of unequal length, the only exception being in one pair of ties in a similar girder having two ties meeting at the centre. Consequently, any extension of the metal, whether resulting from strain on the bars or from temperature changes, must be of unequal degree, the longer bars being extended more than the shorter ones. This naturally tends to induce secondary stresses of prejudicial character. The example is given chiefly for the purpose of showing the discrimination that must be exercised in applying types of steel-girder construction to concrete-steel design.

There are many other varieties of the braced girder in which similar defects do not exist, and some of them are quite worth consideration for special examples of concrete-steel construction. As a rule, however, the more simple methods of applying reinforcement are those which should be adopted in general practice.

In *j* we approach another method of reinforcing concrete beams, in which the reinforcement is shown bent into a curve similar to that forming one boundary of the bending moment diagram of a supported beam under a uniformly distributed load. Although theoretically correct, so far as bending moment is

concerned, this arrangement does not lend itself conveniently to the application of ties for resisting shearing stress, and in practice it will be found to involve more expense and trouble than the use of other forms of reinforcement.

In *k* the last-mentioned system is shown in connexion with a beam having its ends firmly fixed in the walls of a building. In such a case, if the condition of fixity be fully satisfied, the maximum bending moment occurs at the ends of the beam, and has the value $M = Wl \div 12$, and the bending moment at the middle of the beam is $M = Wl \div 24$. At the distance of about one-fourth of the length (l) from each end of the beam, or, to be exact, $l \times 0{\cdot}211$, there is a point of contrary flexure where the bending moment becomes zero. Such a beam may be regarded as consisting of three parts—two cantilevers, and a supported beam between the points of contrary flexure. It must further be remembered that between the supports and the points of contrary flexure the upper fibres of the beam are in tension, while the same condition is evidenced in the lower fibres of the central portion. Hence the reinforcement must be of the curved form shown in the figure, and to secure the maximum advantage it should be secured at each end by anchors, as indicated in the diagram. As the maximum bending moment in the middle part of the beam is only one-third the value of that in a beam merely supported at the ends, the depth may be proportionately reduced, and as the maximum bending moment at the ends is only two-thirds the value of that developed in a similar beam supported at the ends, the depth of concrete may be proportionately less. The most economical profile is consequently that of a beam with parallel top and bottom faces between the points of contrary flexure and arched haunches at the ends. Such a profile has the further advantage of providing a considerable thickness of concrete in cross sections where shearing stress approaches its maximum intensity.

In *l* is shown another system of reinforcement, providing in a very simple manner for the incidence of tensile stress in a beam fixed at the ends, and although this mode of treatment does not conform so closely with theoretical requirements as the method described above, it can be applied easily and cheaply.

In *m* we have part of a continuous beam, where the conditions generally resemble those in a beam with fixed ends, and in this diagram we have shown vertical reinforcement in the supports, connected to the bent ends of the bars, serving to resist tension up to the points of contrary flexure and afterwards in the central portion of the beam.

The foregoing examples are sufficient to suggest the principal features embodied in concrete-steel beams, and, as each type illustrated is susceptible of further modification and development, it will be seen that an almost infinite variety of design is available for the architect or structural engineer.

A further modification of design is suggested by the application of the tubular system to beam construction. In this way the usefulness of a specified quantity of concrete can be increased, or for a specified duty the quantity of concrete can be reduced. Fig. 32 shows diagrammatically the

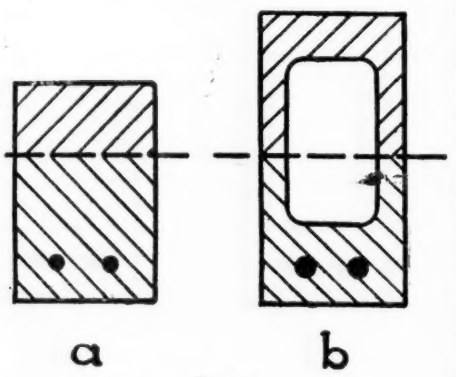

Fig 32.

manner in which a given area of concrete, in a vertical cross-section of a beam, may be advantageously employed for the purpose of gaining increased strength. As a matter of fact, as may be found by measurement, the solid section represented at *a* has a somewhat greater area of concrete than the hollow section shown at *b*, while, owing to the greater distance of the axis of compression from the neutral axis, the resistance of the second section is considerably greater than that of the first section. The area of concrete removed, below the neutral axis, would have been of comparatively little value for resisting tension, and if, as usual, the tensile strength of concrete is not taken into account, the theoretical loss is nothing. Similarly, the omission of concrete above the neutral axis does not materially affect the strength of the compression area. The general result, so far, is an increase of resistance to compressive stress and a small diminution of resistance to tensile stress. The balance of strength between the two areas must be adjusted by using more metal in the reinforcement of the section *b* than in the section *a*. The hollow section will then possess much greater resistance to the effects of bending moment than the solid section, and the only sources of extra cost are to be found in the necessary moulds for forming the central cavity, and in the weight of additional steel reinforcement.

So far as concerns shearing stress, it is quite certain that the resistance of a tubular beam must be proportionately less than that of a solid beam, but this feature can very easily be met by the employment of rods or strips of steel placed diagonally, or, better still, by using sheets of expanded metal in the manner already proposed. A very simple and effective way of finishing the upper edges of the expanded metal would be to turn them over two thin steel rods in the compression area, thus conducing to the thorough connexion of the whole construction.

The tubular system is more especially suitable for large beams, and, if worked out in accordance with the principles governing all beam design, it may very frequently be of much convenience and advantage to the architect.

With regard to the form of steel section used for reinforcement, the first essential is to avoid the concentration of metal, and always to use thin rods in preference to heavy bars. We have previously referred to the advantages possessed by some of the patented bars intended to add mechanical adhesion to the adhesion existing between the concrete and the steel, and in works where vibrations and shocks are likely to be severe, the employment of special forms of reinforcing bars may be thought necessary. As, however, recent investigation has shown that plain round bars afford satisfactory results, they may be used with confidence for ordinary building construction. A very great advantage is that such bars can always be purchased from stock without the delay that would probably attend the delivery of patented or other special sections. The merits of expanded metal have already been shown in connexion with resistance to shearing stresses; but it may now be added that this material will also be found of great value when used horizontally, either alone or in conjunction with longitudinal bars, as it will then serve to strengthen the beam laterally, and to bind together the longitudinal bars.

In every case the reinforcement must be securely anchored by bending or splitting the ends of bars and by bending the edges of sheets. Where, owing to the length of a beam or to other causes, a joint has to be made between two bars, the ends should be bent or hooked, or a slip socket, formed of iron tubing, may be used. Cement mortar can then be applied to complete the joint. Sheets of expanded metal can be joined by laying them to overlap, and the concrete will bind them securely together.

Whatever form of section be selected, the great thing is to dispose the metal in those places where an analysis of stresses shows it to be most required. If proper study be made of the principles governing concrete-steel construction, there is not the slightest reason why architects should not be able to design structures in this material as readily and as successfully as they already do in stone, timber, and brick.

Among the different systems of construction advertised in the present day, there is scarcely one that has not good features; but our advice to the designer is that he should not feel bound to confine himself to any particular system. It is far better to reserve complete liberty of action, and, after carefully studying the requirements of any given constructional work, to apply such forms of design as will most adequately fulfil the conditions that are known to be essential.

GENERAL BUILDING NEWS.

Wesleyan Chapel, Staveley.—The foundation-stones have just been laid of a new Wesleyan chapel at Staveley, Derbyshire. The new building will occupy a central site on the main road to Chesterfield. The cost is estimated at 5,500*l*. Messrs. Gordon and Gunton, London, are the architects, and Messrs. Lee and Kirk, Alfreton and Chesterfield, the builders. The church is to accommodate 506 worshippers, and a Sunday school is to be added in the future. The church will be erected in the Gothic style, of pressed bricks and Bath stone dressings.

Reading-room, Low Moor, Lancashire.—A reading-room was opened at Low Moor, Clitheroe, recently. The building, which has been erected from designs by Mr. H. R. Price, Manchester, is in St. Paul's-road, at the corner of New-row. On the ground floor accommodation is provided for smoking, reading, and committee rooms. The billiard-room is upon the upper floor. The building also includes rooms for hot and cold water baths for men and women, those for the women being on the ground floor, and they have a separate entrance in New-row. The exterior has been faced with Accrington bricks, the window sills and string jambs being constructed of red Ruabon terra-cotta. The contractors were:—Brickwork and masons' work, Messrs. J. Blezard and Sons, Clitheroe; slating and plastering, Mr. J. Robinson, Clitheroe; plumbing, glazing, painting, and heating, Messrs. J. Watson and Sons, Clitheroe; carpentry and joinery, Mr. T. Jackson, Low Moor.

Additions to Harrow School Chapel.—On the 8th inst., the additions made to the school chapel in memory of those Harrovians, 55 in number, who lost their lives in the late war in South Africa, were dedicated. With the sum raised by subscription, transepts have been added to the chapel on either side of the chancel, the foundation-stones of which were laid by Lord Roberts in July of last year. Porches have been built at the two main entrances, the big western door having been moved to the south side of the chapel, exactly opposite to the main north entrance. The architects were Mr. Aston Webb, R.A., and Mr. Ingress Bell. In each transept a sculptured memorial has been placed, showing the names of those in whose memory the fund has been raised, the figures of St. George, St. Michael, St. Andrew, and St. Patrick, which are to be placed round the tablets, being sculptured by Mr. Drury, A.R.A.

Church, Bromley Common.—It is proposed to erect a new Primitive Methodist church, to seat 500, together with two vestries and six classrooms, at the corner of Bloomfield-road, Bromley Common. The design selected is by Messrs. Moulds and Porritt, of London.

United Free Church, Cambusnethan, N.B.—A new church, hall, and retiring-rooms have been erected by the Deacons' Court of Cambusnethan United Free Church, Wishaw, at a cost of 4,000*l*. The church is seated to accommodate 520, and the hall can accommodate 200. The work has been carried out under the supervision of, and to the plans prepared by Messrs. J. and J. Steel, architects, Wishaw.

Crematorium, Birmingham.—The Birmingham crematorium was declared open on the 7th inst. by Sir Henry Thompson, Bart., president of the company. It is situated at Sheldon Coppice, near Rockey-lane, three and a half miles from the centre of the city on the main road to Walsall, and is a brick and stone building with tiled roofs. It stands in the centre of grounds laid out with trees, turf, and shrubs. The size of the chapel itself is 50 ft. long by 25 ft. wide, and about 40 ft. high to the ridge, with an open timbered roof, the total length of the building being about 107 ft. On one side there is a vestry and registry office with a separate entrance, and on the other side a small mortuary chamber. The chapel is lighted by clearstory windows, and underneath these on both sides are recesses for the reception of cinerary urns. The catafalque is against the end wall opposite the entrance, and stands on a stone platform approached by two stone steps, and immediately beyond the catafalque are the iron doors leading to the antechamber between it and the furnace, the level of which is the same as the catafalque. The total cost of the crematorium, including land, chapel, furnaces, and lodge, has been about 6,000*l*. Mr. Frank Osborn was the architect and Mr. J. E. Wilcox the engineer.

Cottage Homes, Ecclesall, Yorkshire.—The Ecclesall Board of Guardians have decided to erect, at Bole Hill, a small colony of cottage homes for the children placed in their charge, and the foundation-stone has just been laid. The site is about 22 acres in extent. Accommodation will be provided, to commence with, for 78 children, six boys and six girls being in each house. The houses are arranged in two lines, with a wide space laid out as gardens between them. Each semi-detached house, of which there are six, contains a living-room, or kitchen, 18 ft. 6 in. by 15 ft., scullery, 13 ft. by 11 ft., bathroom and lavatory, grocery larder,

and clothes stores, and hall, on the ground floor; and on the first floor are two dormitories, one for boys and one for girls, each containing six single beds, and a mother's bedroom. An isolation, or spare, bedroom is provided in each house. The cottages will have self-contained out-buildings and offices. There is also a single or isolation block, in case of any serious illness. The master's or superintendent's house is near the main entrance from Bole Hill-lane, and contains the committee or board-room, where the business in connexion with the homes will be transacted. On the right and left of the master's house are two buildings, 42 ft. by 17 ft., the ground floor of which will be used for stores. The upper floor will be for tailor's and shoemakers shops for the boys, and for sewing and knitting-rooms for the girls. Stables are also provided, and a water tower to supply the homes from the Sheffield water supply. The site has been laid out and the plans designed by Messrs. Holmes and Watson, architects, Sheffield, and the contract for the buildings has been let to Messrs. Wilkinson and Sons, Heeley.

CHURCH EXTENSION, GATESHEAD. — The foundation-stone has just been laid of a mission hall just beyond the railway bridge on Lobley Hill-road. The total cost of site, parish hall, and classrooms will be about 2,500*l*. A parish hall, to be called after St. Hilda, will first be erected, and it will serve as a temporary church and Sunday school. The architects are Messrs. Hicks and Charlewood, Newcastle; and the contractors Messrs. John Ross and Son, Gateshead.

CO-OPERATIVE STORES, WALBOTTLE, NORTHUMBERLAND.—New branch stores have been erected at Walbottle by the Throckley District Co-operative Society, Ltd. The work was carried out by Mr. John Jackson, contractor, Newcastle. Messrs. Liddle and Browne, also of Newcastle, were the architects.

HACKNEY TECHNICAL INSTITUTE.—The buildings which were opened on Thursday last week form the first two blocks of this Institute, which, when completed, will occupy a large frontage to Dalston-lane. There is also yet to be built a large Public Hall, which will occupy the corner of the site, with frontages both to Dalston-lane and Amhurst-road. The whole scheme will form one of the largest Polytechnic Institutes in London. The buildings recently finished occupy the rear portions of the site and provide large mechanical, physical, and electrical laboratories on the ground floor, drawing offices, and classrooms on the first, and the chemical and biological laboratories and lecture theatre on the second floor. The third floor, when completed, will provide accommodation for the art school, which for the present will occupy the large engineering laboratories on the ground floor. The buildings are quite plain and simple in treatment, as they are situated at the rear of the site without frontages to a public thoroughfare. They are faced with red bricks, with brick quoins at the angles, while the white frames of the windows are brought to the face of the wall. Internally the corridors are faced with a dado of salt glazed bricks, which, together with all the sanitary fittings, were supplied by Messrs. Oates and Green, of Halifax. The wrought-iron grilles and balustrading to the staircase has been executed by Messrs. Keeling, Teal, and Co. The general building contractors were Messrs. Chessman and Sons, of Bow, and Mr. W. Tidey was the clerk of the works. The other contractors were Messrs. G. E. Taylor and Co. for the electric lighting, Messrs. Kinnell for the heating, and Messrs. B. Ward and Co. and Messrs. Diespecker for the wood block floors and mosaic pavings. The buildings, exclusive of equipment, have cost about 1,500*l*. Mr. Arthur W. Cooksey is the architect.

THE BUILDING TRADE OF YORK.—The Buildings Inspectors of the city have presented their annual reports to the York Streets and Building Committee, on the work carried out during the year ended last December. The report dealing with the West side of the city says:—"The building trade in 1902 has not been so brisk, and there is a considerable decrease in the number of houses completed and in progress. This decrease has been somewhat balanced by the number of extensive additions to existing buildings. . . . The greater number of houses erected are in the South Bank and Nunthorpe Estates and Poppleton-road. On the East side of the city 219 dwelling-houses, mostly of the small and middle class, have been built on the Hull-road, Lawrence-street, Church Park, Huntington-road, Burton-lane, Bootham, Clifton, and Fulford-road estates. Extensive new public buildings and additions and alterations to existing premises are in progress, amongst which are the Nurses' Home; York County Hospital; St. Peter's School; Union Bank Premises, Parliament-street; New School, Haxby-road; and Messrs. Harding and Brown's premises, High Ousegate. Additions to the Blue Coat School, Aldwark; a new wing at the Training College, Lord Mayor's Walk; new classrooms at the Lendal Congregational Chapel; and a Mission-room in Speculation-street, have been completed."

SCHOOL, BELFAST.—The third and last of the new schools erected under the Hugh Henry Boyd endowment scheme was opened on the 1st inst. The principal entrance is from Rodenstreet through a porch which has a cloakroom off it. The main schoolroom is 40 ft. by 24 ft., with the ceiling open to the ridge. A classroom 17 ft. by 16 ft. is entered from a passage and cloakroom, and is fitted up with a gallery. Over the classroom is a storeroom for the school requisites. The work has been carried out by Messrs. MacIvor Bros. from plans and under the superintendence of the architects, Messrs. Young and Mackenzie.

BOARD SCHOOLS, CANTERBURY.—The new Board Schools at Canterbury were opened recently in St. John's-lane. The buildings are in two separate blocks, the larger one, of two stories, being for the boys and girls, and the smaller block, on the ground floor only, for the infants. The schools are built of red bricks, with stone dressings, and are tiled. Electric light is installed throughout. Mr. Jennings was the architect, and Messrs. Gann and Co., of Whitstable, the builders. The amount of the contract was 16,645*l*.

THEATRE EXTENSION, GLASGOW.—An extension has been made to the Grand Theatre, Glasgow, at a cost of 10,000*l*. A block of buildings abutting the south side of the theatre was acquired at a cost of 4,000*l*., and this has been converted into refreshment rooms, smoking lounges, and ladies' retiring rooms, each section of the theatre being supplied with a similar suite. The alterations have been made from plans by Bailie Davidson, architect, Coatbridge. The theatre has also been redecorated. All the painting work is by Messrs. M'Culloch and Co., Glasgow.

BUILDING IN LEICESTER.—The latest report of the Highway and Sewerage Committee shows that in the last quarter the plans for but 214 houses were passed, as contrasted with 273 in the corresponding three months of the previous year. During the second quarter of the year the aggregate had been 262, while in a corresponding period three years before there had been as many as 423. The combined total of all classes of plans for the past three months had been 417. This was a decline of as much as 114 on the same period of last year, and a fall of 137 on the second quarter of the present one.

MEMORIAL HALL, CASTLETOWN, NEAR SUNDERLAND.—The foundation-stone of the hall which is to be erected at Castletown, near Sunderland, in memory of the late Colonel C. J. Briggs, was laid recently. The hall will be used for mission work in connexion with St. Margaret's Church. It wil be 60 ft. long and 27 ft. broad, with ante-rooms and the usual conveniences. Seating accommodation is provided for 500. The cost is put at 1,200*l*. Messrs. Henderson and Hall are the architects.

SCHOOL, LOUGHBOROUGH.—The new school in Rendell Street, Loughborough, commenced under the late School Board, and completed under the new Education Authority for the borough, was opened recently. Messrs. Barrowcliff and Allcock were the architects of the school, Mr. A. Faulks the contractor, and Mr. G. H. Bradley the contractor's foreman.

TECHNICAL SCHOOL, KIRKCALDY.—The new technical school which is to be erected by Kirkcaldy School Board is to occupy a site immediately to the west of the present High School, and entering from St. Brycedale-avenue. The school has been designed to harmonise with the High School, with which it is connected by a corridor. The building consists of semi-basement, ground, and first floor. In the basement are the carpentry and mechanical workshops, cookery and laundry rooms. On the ground floor are the laboratory, dark-room, workshops, machine and building construction and drawing class-rooms. The first floor is occupied by the chemical laboratory, art rooms, modelling, and design rooms. Competition plans were invited for the building, and those of Mr. N. Williamson, architect, Kirkcaldy, were selected. The school is expected to cost about 15,000*l*.

ST. CHAD'S CHURCH, GATESHEAD.—The new parish Church of St. Chad, Gateshead, has just been consecrated. Plans were prepared by the late Mr. W. S. Hicks, of the firm of Hicks and Charlewood, and the foundation-stone was laid by Bishop Westcott on November 3, 1900. The principal entrance is by a Decorated porch on the north side of the church. Above the door of the porch are three niches holding statues. The font is of Derbyshire alabaster, and is surrounded by eight statuettes, representing Faith, Hope, Charity, St. Michael, and four angels holding shields with emblems symbolic of Holy Baptism, the Dove, the Ark, the Fish, and the Holy Trinity. Behind the font, and above it, is a window, placed there in memory of the architect, Mr. Hicks. The three southern lights illustrate the idea of the building of the material fabric, the three northern lights the building of the spiritual fabric. All the carving in the church has been executed by Mr. Ralph Hedley. The pulpit is in carved oak.

CHURCH, NEWTOWN, MALVERN.—The Church of the Ascension, erected in Albert Park-road, Newtown, was opened recently. The church consists of a nave and choir, the dimensions of the former being 65 ft. long, 27 ft. wide, and 35 ft. high; the latter 37 ft. long, 18 ft. wide, and the same height. There is accommodation for about 300. There are no aisles, and the vestries are below the choir. At the west end is the baptistry, and above that the organ is placed. The nave consists of four bays, formed by stone transverse arches, between which is a plaster barrel vault. The choir has three bays in its length, vaulted with stone transverse and diagonal ribs, with plaster haunches. An arcaded triforium runs the entire length of the church. Coupled lancet windows light the nave, the choir having single lancets. At the entrance to the choir is placed a wrought-iron hammered screen, and above this, at the springing of the choir arch, is the rood of oak, stained and gilded. At the east end of the choir is a tripled lancet window, containing the subject of the Ascension. Below is a painted triptych in red and gold, the centre panel of which contains a picture of the Virgin and Child, with attendant Saints in the surrounding panels. The font is of Irish grey marble, eight-sided, with detached shafts. A metal cover hangs from the vaulted ceiling, of copper. Over the baptistry arch stands the figure of St. Michael. At the western face of the tower, externally, is a carved representation of the Ascension. The choir stalls, pulpit, lectern, and other fittings are of oak. The floors of the choir and baptistry are of black and white marble. Adjacent to the church at its eastern end is the parish room. It is estimated that the cost of the building will be 10,000*l*. The architect was Mr. W. J. Tapper, of London, and the builders Messrs. Stephens, Bastow, and Co., of Bristol; the clerk of the works, Mr. J. D. Organ, and the carving on the pulpit, choir stalls, and other parts was carried out by Mr. Wilmut, of Bristol. The Malvern Hill stone used in the walls was supplied by Mr. A. E. Lewis, North Malvern.

HOSPITAL, ASHBOURNE.—A new cottage hospital has been erected at Ashbourne, as a memorial to the late Queen Victoria. The new hospital has been built from designs prepared by Mr. A. E. Evill, Manchester, at a total cost, including the laying out of the grounds, of about 2,500*l*.

SCHOOL, MILL HILL, LANCASHIRE.—The new wing which has just been added to the school premises of the Mill Hill Congregational Church was opened recently. The structure has been erected at a cost of 2,765*l*. The whole of the premises are now estimated to seat some 1,020 scholars. In the new building, which has been constructed at the rear of the old premises, is included an infants' room on the ground floor, and an assembly hall above. Mr. A. R. Gradwell was the architect.

ST. AIDAN'S, CREW'S HOLE, BRISTOL.—The foundation-stone of the new Church of St. Aidan's, Crew's Hole, has just been laid by the Dowager Duchess of Beaufort. It has been decided to build at once the chancel, two bays of the nave, with the south aisle and morning chapel and vestries. Contracts have been signed by Messrs. Cowlin and Son for this work at the price of 4,873*l*., and the work will be carried out under the charge of Mr. George Dixon, foreman. Mr. G. F. Bodley, R.A., is the architect. The material used wil be local pennant stone. The dressings are to be of Bath stone. The roof will be covered with red Broseley tiles. The extreme length of the church, when completed, will be 116½ ft., the chancel being 39½ ft. and the nave 77 ft.; the width of the chancel will be 25 ft., the nave alone 40 ft., and the nave and aisle 51½ ft. The height from the floor of the nave to the roof plate will be 26 ft. The external height of the west front from the ground level to the apex of the cross will be 64 ft. On the north side the church will be lighted by four windows of five lights. The arcading between the nave and aisle is to be composed of Bath stone piers, from which will spring flat connecting arches.

ST. PATRICK'S CHURCH, BALLYMACARRETT, NEAR BELFAST.—The first section of this church was built by Messrs. Campbell and Son, and was consecrated in March, 1893, being dedicated to St. Patrick. In 1901 Messrs. Thornbury Brothers were selected to finish the church and build the tower, and this work has been carried to a finish. The plan of the church comprises arcaded nave and clearstory, aisles, transepts, choir, organ chamber, vestry, tower, porches. The nave is 100 ft. long by 28 ft. wide, having north and south aisles. The width across the transepts is 98 ft. The chancel is 30 ft. long by 24 ft. wide, a portion of which is devoted to the choir, and beyond—eastward—steps rise to the Communion rails and the Holy Table. An effort has been made, although adhering generally to ecclesiastical arrangements, to make the church suitable for large congregations; and, with this

in view, galleries have been introduced into the transepts. The internal woodwork is of pitch pine, except the choir stalls, which are of oak. The church is heated by hot water. The additions to the church, which have been in progress two years, and have now reached the final stage, consist of a continuation of the nave or main body of the church, and a tower which, now completed, stands 144 ft. high. The outside work is rock-faced, with cut-stone quoins and dressings. The seating accommodation of the church has been enlarged, being now equal to 1,500, with a possible accommodation of 2,000. Mr. Close, A.R.H.A., was the architect. There are two memorial windows in the church; the east window and the south transept window, and both are by Messrs. Mayer and Co.

Welsh Church, Port Talbot.—The Margam Chapel-of-Ease, which had been renovated, and a new organ placed in it, at a cost of over 800*l.*, was re-opened recently. A screen has been placed in the chancel, the handicraft of Mr. Clarke, of Llandaff. The contractors were Messrs. Couzens, of Cardiff, the organ builders were Messrs. Hill and Sons, and the architect was Mr. Halliday, diocesan architect.

Police Station, Manchester.—A new police station, which has been erected in Mill-street, Bradford, Manchester, was opened on the 1st inst. The station has cost 25,000*l.*, and will take the place of the old headquarters of the C Division in Fairfield-street, as well as of several sub-stations. The building contains separate departments for police and firemen, together with housing accommodation for several men of both forces. In the police department there are thirteen cells, and these, like the rest of the building, are lighted by electricity. The City Architect is Mr. H. Price, under whose directions the work has been carried out.

Church, Ballyhaunis, Ireland. — The foundation-stone has just been laid of the new Church of St. Patrick, Ballyhaunis. The new church will be in the Gothic style, and the building will comprise aisles, side chapels, two sacristies, and porches. The length of nave, clear of the pillars, is 30 ft. The aisles are each 110 ft., the sanctuary, 30 ft. by 30 ft. The tower is on the side next the town. The nave will be divided from the aisles and side chapels by moulded arches, springing from pillars of polished granite. The arch between the sanctuary and nave will be of stone springing from columns of polished granite. The principal entrance doors will be in front of the nave. The sanctuary will be lighted by lancet windows with internal and external shafts of polished granite. The roofs have groined and moulded principals resting on shafts of polished granite, supported on Bath stone. The ceilings of nave and aisles are of pine, divided into panels. The height of the nave walls will be 60 ft.; the height to cross will be 170 ft. The church will be built of local stone, faced with hammered stone of the same material. The dressing of the windows and doors will be limestone. The design will be carried out by Messrs. W. H. Byrne and Son.

College Buildings, Llandovery, Carmarthen.—The extension buildings in connexion with Llandovery College, which have been in progress for about two years, are now practically complete. A special feature of the new buildings is the dining-hall. It is nearly 72 ft. long by about 28 ft. wide. Mr. Mercer, of Llanelly, was the contractor, whilst the architects were Messrs. Austin and Paley, Lancaster.

The Reconstruction of Ayr Theatre.—At Ayr Dean of Guild Court recently, plans for the renovation and reconstruction of Ayr New Gaiety Theatre, recently partially destroyed by fire, were passed. At a previous sitting of the Court plans had been passed for the reconstruction of the stage. The further plans now submitted provide practically for the entire reconstruction of the interior, only the main walls of the former building being left. The plans have been prepared by Mr. Alex. Cullen, architect, Hamilton. The total seating accommodation of the theatre will now be 1,230, and the whole building, instead of being lighted with gas as formerly, will be fitted throughout with electric light.

Post-office, Barry.—Plans for the new post-office about to be erected at Barry are nearly completed. Mr. W. T. Oldrieve, of the Office of Works, is the architect. The interior of the building will have a frontage of about 130 ft. in Thompson-street. The public office will have a floor space of 30 ft. by 22 ft., and on the same floor there will be a sorting office 59 ft. by 27 ft., besides several other rooms necessary for conducting the business. Chief upon the upper floor will be the telegraph instruments room, 23 ft. by 21 ft.; a telephone room, 22 ft. by 18ft., and other offices and rooms. The estimated cost of the building is 7,800*l.*, and the contract has been let to Mr. Watkin Williams, of Cardiff and Barry. Ruabon red pressed brick will be used in the front elevation, with Portland stone dressing.

STAINED GLASS AND DECORATION.

Memorial Window, Lancaster.—It is proposed to erect a memorial window to the late Sir Thomas Storey in the Parish Church, Lancaster. The new window will cost about 750*l.*, and will be erected from the designs of Messrs. Shrigley and Hunt.

Sculpture, St. Chad's Church, Bensham.—Three carved stone figures of SS. Chad, Aidan, and Theodore, with their respective emblems were fixed recently in the new Church of St. Chad, Bensham, Gateshead-on-Tyne, for Messrs. Hicks and Charlewood, architects, of Newcastle-on-Tyne. The figures are the work of Mr. G. W. Milburn, sculptor, York.

Window, Westminster Abbey.—A new window has just been dedicated in Westminster Abbey. The window, which is placed in Poets' Corner, bears the title of "Translation of King Edward the Confessor," and represents incidents in the life of that Monarch. At the head of the window is a cinque-foil containing a shield bearing emblems of the Trinity, surrounded by angels holding a scroll. The lights contain two full-size figures under canopies, with six picture subjects beneath them, both lights being framed with wide architectural borders, having niches holding twenty-eight statuettes. In the left-hand light is the figure of King Edward the Confessor, the founder of the Abbey; in the right-hand light is that of St. John the Evangelist. The glass is the work of Messrs. Burlison and Grylls, acting under the superintendence of Mr. G. F. Bodley, R.A.

Memorial Window, Standish, Glos.—A stained glass memorial window has been erected in Standish Church, near Stonehouse, Glos. It is the work of Messrs. Joseph Bell and Son, of Bristol.

FOREIGN.

France.—M. Nénot, who is architect to the Panthéon as well as to the new Sorbonne, is placing in the Panthéon a series of statues of celebrated personages of the Revolution. In the apse of the choir is also to be placed the monument to Victor Hugo which M. Rodin is now completing. In regard to the painted decorations, M. Detaille is now at work on a large picture symbolising the Chant du Départ.——In the Garde-Meuble National there have been found forty-one carved panels which had been commissioned by Louis XIV. from the best artists of his day. These wood carvings, showing trophies of lyres, armorial bearings, etc., are to be collected in one of the rooms at Versailles.——A competition has been organised, in which foreign as well as French architects have been invited to compete, for transforming the Cour d'honneur of the hotel on the Boulevard des Capucines into a winter garden.——The Government has commissioned from the Gobelins manufactory two tapestries; one to reproduce the "Printemps" of Botticelli, from a cartoon prepared by M. Lavalley; the other to be a copy from a picture specially painted by M. Olivier Merson, representing two figures holding up the device of the Gobelins—

——"Divinâ Palladis arte
Picturam superavit acus."

——A new hospital is to be built at Tréport, from the plans of M. Ratier.——A competition has been opened for the designs for a picture gallery for Orleans.——An ancient feudal dungeon near Montlucon, called the "Donjon d'Huriel," and which is classed among the "Monuments Historiques" is in process of being "restored." It dates from the eleventh century, and is one of the best specimens of mediæval military architecture in France.——A concrete-steel bridge is shortly to be constructed at Chalons-sur-Marne.——M. Paul Guadet, architect to the Legation of France at Tangiers, has been commissioned to build a new Hotel de la Legation. ——Important works are shortly to be undertaken in Algeria for the improvement of the different ports, especially those of Algiers and Philippeville. To these works, which are estimated to cost nearly seventeen million francs, is also to be added a scheme for the creation of a military port at Mers-el-Kebir, at a cost of twenty million francs, and a trading port at Rachgoun at a cost of twenty-three million francs.——M. Roujon is spoken of as a probable candidate for the Secretaryship of the Académie des Beaux-Arts, in place of the late M. Larroumet.——M. Guillaume, the sculptor, has just completed the bust of Hittorf, the late eminent archæological architect. It is intended for the Palais Mazarin.——A statue of Vercingetorix was inaugurated on Sunday last at Clermont-Ferrand; the work of M. Bartholdi.

War Memorial, Ballarat.—We understand that the citizens of Ballarat, Australia, have decided to erect a statue to the memory of the troops who fought in the South African War. The statue is to be equestrian, in bronze, and the cost will not exceed 1,300*l.* delivered in Melbourne. The pedestal is to be constructed locally. Designs are being received by the Agent-General for Victoria, for transmission to the Committee.

A Colosseum in America.—Mr. McKim has made plans and designs for the construction of a vast stadium, after the classic model, upon the Soldiers' Field, the playground of Harvard College, on the bank of the Charles River. The building will enclose an arena 450 ft. in length, and its extreme dimension, as seen from the road that crosses Harvard Bridge, is nearly 600 ft. The framework of the structure consists of iron girders, with a facing of concrete blocks; whilst a mask of yellow white is to conceal the iron-work from within. The tiers of seats, rising to a total height of 100 ft., will give sitting room for 24,000 spectators, whose numbers might, on occasion, be increased to nearly 40,000. Light columns sustain a roofed gallery behind and above the highest tier, affording a covered walk or balcony, whilst the severe elevation of the design, as viewed from the exterior, will be somewhat relieved by a simple cornice above a colonnade of three rows of galleries.

Natal.—A new port will shortly be formed at the mouth of the Umhlatuzi river, in Zululand, to connect it with the main line from Durban to the Rand. The lagoons have been surveyed and reported upon by Mr. C. W. Methuen, M.Inst.C.E., and the total cost of construction will be 800,000*l.*

India.—The Municipality of Mussoorie have adopted a scheme for the supply of water from the Kemptee Falls. The electric plant erected on the spot provides for lighting the whole of the district. It is contemplated that the water will be pumped by electric power to three main reservoirs and thence distributed over the station.

MISCELLANEOUS.

Professional and Business Announcements.—The B. and S. Folding Gate Company have parted with their interest in electric and hydraulic passenger and goods lifts, which has been taken over by Messrs. W. A. Gibson, Ltd., 28, Fleet-street; and their interest in the Quimby screw pumps has been taken over by the Quimby Screw Co., Ltd., at the same address; the Folding Gate Co. intending to give their whole attention to their regular work in folding gates, steel rolling shutters, grilles, lift enclosures, etc.

Theatre Royal, Birmingham.—The scheme for the rebuilding of the old play-house embodies a row of shops in the front in New-street. Messrs. E. Runtz and Co. have, we understand, been appointed the architects. The old theatre, recently demolished, had a capacity for an audience of 2,000 persons. It was first built in 1774, at a cost of nearly 6,000*l.*; six years afterwards was added an Ionic portico with a balcony. Having been burned by the act of incendiaries in August, 1792, the house was rebuilt in 1793-5, and re-opened by the elder Macready. It was again consumed by fire in 1820, and was re-built in that same year. In 1810 W. C. Macready made his first appearance there in the character of "Romeo."

Appointment of Sanitary Officers.—The Local Government Board has sanctioned the appointment of the undermentioned sanitary inspectors:—Mr. H. J. Gentry, in Fulham, at a salary of 120*l.* per annum; Mr. J. Sweeney, in Southwark, at a salary of 120*l.* per annum; Mr. G. J. Bridel, in Greenwich (further period of six months), at a salary of 130*l.* per annum.

The Ten Temples of Abydos.—At Owens College, Manchester, on the 5th inst., Professor W. M. Flinders Petrie gave a lecture on the recent discoveries at Abydos. Abydos (he said) was the first capital of Egypt, and always remained one of its main religious centres, the Canterbury of the land. Its great temple, therefore, was restored and rebuilt in each age from 5,000 to 500 B.C. When Mariette dug there about forty years ago he concluded that nothing remained; even the very foundations had been removed, and it was hopeless to seek for the tomb of Osiris, which he thought was the great centre of worship. On that very ground we last winter found the remains of ten successive temples, one over the other, and instead of finding the tomb of Osiris we found that god was a later importation, and that a different god of the dead was originally worshipped, called "the Opener of Ways." These ten successive temples filled a depth of fifteen to twenty feet of earth and ruins. Of some, of mud brick, there were walls yet standing, but the stone temples had been almost entirely taken away for stone, and only the foundation deposits remained to show what had stood there. From the age of the first temple a group of about two hundred objects had been found which gave surprising light on the civilisation of the first dynasty. A part of a large glazed pottery vase of Mena, the first king of the first dynasty, about 4700 B.C., showed that even then they were making glaze on a considerable scale, and also inlaying it with a second colour. Other glazed vases were copied from the architectural lotus capital, showing that form to have been already used. The ivory carving was astonishingly fine, a figure of a king showing a subtlety and power of expression

as good as any work of later ages. Other figures of lions, baboons, etc., are of the same school. In artistic work and in glazing technical completion was already reached at the first dynasty. Some pottery of this age had been imported from Crete, and also two figures of cast copper, showing that commercial intercourse across the Mediterranean was already going on. It is striking how Egypt tells the same tale of civilisation as Peru; there recent work has proved five successive ages of culture, and the earliest of all is in most respects the finest in its work. Coming down to well-known times, at about 4000 B.C., an ivory statuette of Cheops, the builder of the Great Pyramid, was found, the only portrait known of him. Although the face is no larger than the tip of a little finger, yet the work is so able that it has all the air of a colossus; when magnified on a screen no one would suppose that it was less than life size. It gives a strong idea of the driving power and indomitable will of the man who was the greatest builder of any age, who established the Egyptian monarchy on lines which lasted for thousands of years, and who confiscated to the State all the religious endowments of the country. Of this last policy, recorded by Herodotus, the actual remains were found in the hundreds of little clay substitutes for sacrifices. Later than this were found two large decrees on stone, the charters of the temple, giving the privileges of its staff; many alabaster vases of the kings, foundation deposits of several different periods, inscriptions of two new kings, and some statues. A group of terra-cotta figures in a burial of about 1400 B.C. shows how a Greek potter had settled in Egypt and was making things for the Egyptian market, mainly Greek in style. For the first time we have disclosed the continuous history of a great site, age before age, throughout the whole of the long course of Egyptian history—from the first dynasty down to the Greek period. —*Manchester Guardian.*

PROPOSED EXHIBITION AT DUSSELDORF.—The Board of Education have received a communication from the Foreign Office intimating that an International Fine Art and Horticultural Exhibition is to be opened at Düsseldorf on May 1, 1904. A hope is expressed that England will contribute largely to this exhibition.

UNDERGROUND ROOMS IN ST. PANCRAS.—The Public Health Committee of the London County Council reported as follows at Tuesday's meeting of the Council:—We reported on July 14 last that we had been in correspondence with the St. Pancras Borough Council on the subject of the large number of underground rooms illegally occupied in that borough. The Council, on our recommendation, decided to inform the Borough Council that the London County Council considers it of great importance that steps should be taken to enforce the provisions of section 96 of the Public Health (London) Act, 1891, with regard to underground rooms in the borough, and to ask what action is being taken upon the report of the borough Medical Officer of Health on this subject. The result of the enquiry which had been made by the Council's medical officer was that over 400 tenements in the borough, affording accommodation for more than 1,000 persons, were found to be occupied separately, although they contravened the provisions of the law relating to underground rooms beginning to be occupied after 1855. Ten of these tenements, accommodating 29 persons, did not even conform to the standard prescribed for underground rooms let antecedent to 1855. When this report was communicated to the Borough Council that body caused an inspection to be made of the underground rooms in the borough, and the borough medical officer reported that there were 640 rooms in which the conditions were practically irremediable, and suggested that the rooms should be dealt with consecutively and at intervals, "so as to avoid the serious effects of suddenly displacing a large population." The Borough Council has now intimated that notices have been served requiring the owners of 49 of these rooms, to discontinue, within three months, to suffer the rooms to be let or occupied as dwellings contrary to statute, and that the remaining cases are being dealt with. We propose to report again to the Council on the subject in a month's time.

WAR MEMORIAL, TYNEMOUTH.—On the 13th inst. a war memorial in the form of a monument was unveiled at Tynemouth. It was designed by Mr. Arthur B. Plummer, architect, Newcastle, and the sculptor was Mr. Robert Beall, also of Newcastle. The memorial is of red sandstone, and stands about 12 ft. in height.

THE SIMPLON TUNNEL.—According to the latest information received at the British Foreign Office the piercing of the Simplon Tunnel had, on August 1, reached a distance of 7,400 yards on the south side (Iselle), and a total, together with that on the north side (Brigue) of 18,138 yards. The average progress of mechanical boring on the south side was 18 ft. 7 in. per working day, and the flow of water from the tunnel was 253 gallons per second, whereas on the north side the average progress of mechanical boring was 24 ft. 8 in. per working day, and the flow of water from the tunnel 9¾ gallons per second. An exhibition will be held in Milan in 1905 during the months of April to October to celebrate the opening of the tunnel. International sections will be:—(1) means of transport by land and aerial navigation; (2) means of transport by sea; (3) prévoyance .i.e., legislation on behalf of workmen, employees, etc., workmen's friendly and provident societies, etc.); (4) decorative art; (5) labour pavilion for industrial art. There will be a Fine Arts section for national exhibits only. The exhibition is under the patronage of the King of Italy.

LEGAL.

EMPLOYERS' LIABILITY ACT:

MASTERS' SUPERVISION AND MEN'S CONTRIBUTORY NEGLIGENCE.

AT the Marylebone County Court (London) on the 9th inst., before Judge Stonor and a jury, Thomas Patrick Hill, Saltram-crescent, Paddington, W., brought an action, under the Employers' Liability Act, against Mr. John McKenzie, builder and contractor, Keslake-road, Kensal Rise, N.W., claiming 150*l.* damages in respect of personal injuries, said to have been sustained owing to negligence on the part of the defendant or his servant or servants.

Mr. Chester Jones, counsel, appeared for the plaintiff, and Mr. W. Shakespeare, counsel, for the defendant.

Plaintiff's counsel stated that on April 10 last his client was in the employ of the defendant, and assisting in work being carried out at the Zoological Gardens, Regent's Park. The plaintiff and a man named Barrett had been working upon a thirty-round ladder, in order to reach the eaves at the gable ends of the parrot house. Afterwards they found this ladder to be too long, and went to the foreman for a shorter one. The foreman told them to get one from the monkey house; but there the men found only a ladder the same length as the one they had been using, and another which was much too short for their work. The men explained to the foreman that they could not find a suitable ladder, and he said, "Well, do the best you can." In order to reach their work the men put two long 9in. planks upon trestles, and upon these planks they placed a pair of ordinary builder's steps, the top leaning against the wall of the house. The plaintiff was working from the top of the steps, Barrett standing on the planks and holding the foot of the steps, when the weight of the plaintiff caused the extemporised "scaffold" to "bulge out" away from the wall and collapse. Both men fell to the ground, the plaintiff sustaining a broken thigh.

The plaintiff bore out his counsel's opening statement.

In cross-examination, plaintiff said that it was customary in the trade for the men to erect their own scaffolds, when small, such as the scaffold necessary for doing the work in question. While he was working from the steps the defendant and the foreman were within view, conversing for about a quarter of an hour.

James Barrett, the man who was working with the plaintiff at the time of the accident, corroborated as to the foreman saying "Do the best you can," and as to both the defendant and the foreman being within about ten yards of them while plaintiff was working from the steps.

Cross-examined: It was the usual thing in the trade for the men themselves to erect such small scaffolding; he was as much accustomed to the putting up of such scaffolds as the foreman, and witness did not at the time think that the scaffold was dangerous.

Medical evidence having been given regarding the plaintiff's injuries,

Mr. Robert T. Brown, architect and surveyor, said that the scaffold described would be distinctly unsafe.

Counsel for the defence submitted that, it being the duty of the men—as was admitted—to erect their own small scaffold, and as they knew as much about such work as the foreman, yet did not consider the scaffold in question to be dangerous, it could not be held that there was negligence on the part of the defendant or his foreman which caused the accident.

The Judge: But the men might be ignorant, and it is the duty of the foreman to see that they do not do their work in a dangerous way.

For the defence, William Thomas Gammon, the defendant's foreman on the job in question, was first called. Witness denied that either plaintiff or Barrett asked him for a shorter ladder. He did not see the men working on the steps, standing upon the trestles and planks.

The defendant said that, although he was on the job on the morning in question, he did not see the men working upon what was termed the "scaffold." There were twenty-round ladders on the job which they might have used.

The defendant's son; also a painter, and one of the Garden officials stated that there was a shorter ladder close to the men which they might have used for their work.

An important point in the address of defendant's counsel to the jury was to the effect that, if it were held that a master must be constantly on the look-out to see that men whom he employed as efficient workmen, and paid accordingly, did not do their work in an ignorant or negligent manner, it would be impossible for large works, such as that in question, to be carried on.

Counsel for plaintiff dwelt more on the probabilities of the case, urging that, as the foreman was on the job practically the whole of the time, he must have seen the men working on the "scaffold," having previously told them to do the best they could.

The Judge put to the jury questions as follows: Did the defendant or his foreman see the plaintiff working in a dangerous manner? Was the defendant or his foreman guilty of negligence, under all the circumstances, in not carefully supervising the manner in which these men did their work? Was the danger in working on this scaffold so evident that the plaintiff must have known it, and have therefore been guilty of contributory negligence in doing the work?

Counsel for the plaintiff formally submitted that there was no evidence of contributory negligence.

Counsel for the defence respectfully submitted that the question relating to contributory negligence required alteration; and suggested that it should run: Did the plaintiff exercise the care which an ordinarily careful man would exercise?

The Judge intimated that he would note counsel's objection.

The jury found: That the foreman must have seen the plaintiff working in a dangerous manner; that the foreman was guilty of negligence, under all the circumstances, in not carefully supervising the manner in which the men did their work; that the danger in working on this scaffold was so evident that the plaintiff must have known of it, and was guilty of contributory negligence in working there of his own free will.

This was a verdict for defendant, in whose favour his Honour gave judgment, with costs.

Counsel for plaintiff intimated that there was a possibility of his client appealing.

A solicitor representing the other man, Barrett, who was injured by the same accident, explained that his client also was bringing an action against the defendant for damages in respect of personal injuries; and solicitor asked that this case might be adjourned until after the appeal—if there was an appeal—had been disposed of.

His Honour consented.

THE STRAND ANCIENT LIGHTS DISPUTE.

IN the Vacation Court on Wednesday, Mr. Justice Bucknill had before him again the case of the Hotel Cecil, Ltd., *v.* the Savoy Hotel, Ltd., on a motion of the plaintiffs for an *interim* injunction to restrain the defendants, until the trial or further order from building so as to obstruct the plaintiffs' ancient lights.

Mr. Bramwell Davis, K.C., for the plaintiffs, said that the motion came before his lordship the previous Wednesday, and stood over until to-day on the defendants giving an undertaking in the meantime not to build beyond a certain height. The plaintiffs had had a large number of affidavits filed by the defendants put into their hands that day, and they desired time to answer them. He suggested that the defendants should continue the undertaking until the matter could be properly dealt with by Mr. Justice Farwell on the second motion day next sittings.

His Lordship: Do the affidavits delivered to you this morning raise fresh matter?

Mr. McCall, K.C., for the defendants, said they did, and conclusively showed that there were no lights in the plaintiffs' building which retained the rights of the ancient lights in the former building, and in these circumstances he submitted that the application was entirely misconceived. He agreed that the plaintiffs had not had time to answer their affidavits, but when defendants were brought into court the previous Wednesday they had not had time to answer the plaintiffs' evidence.

Mr. Bramwell Davis: I said at the time that I was prepared to move ex parte.

His Lordship: The plaintiffs' affidavits show that certain rooms in their hotel are already too dark, and any diminution of the light they have already got will be very serious. You are both rich people.

Mr. McCall: The defendants certainly are.

His Lordship: Well, let me suggest that this motion should stand over until Mr. Justice Farwell can dispose of it next term, on the defendants giving the same undertaking.

Mr. McCall: I decline to give any undertaking, and I have reason for doing so on the evidence before me. The only real substantial question in this case is whether the building, on the Beaufort House site, will interfere with one window, or two windows, in the plaintiffs' house.

Mr. Bramwell Davis: I do not agree with that.

Mr. McCall: The rest of the case is with regard to the east wing, which is 130 ft. away from the plaintiffs' building.

Mr. Bramwell Davis: No, no.

Mr. McCall: With regard to the Beaufort House site, there will be no addition to that building until the trial of the action. I therefore decline to give an undertaking which will be a sort of admission that the defendants are wrong.

Mr. Bramwell Davis: Then I must ask your Lordship to grant an injunction until the second motion day next sittings.

His Lordship: How can I do that without going into the case?

Mr. Bramwell Davis said it would be necessary for his Lordship to go through the affidavits. It was not as though the defendants were stopping the works. They were now going on building higher, and if at the trial they were held to be wrong they would no doubt put forward the plea in excuse of being compelled to pull down, that the buildings had cost them a great amount of money.

Mr. McCall said that defendants had not increased the pace of their building operations because of this action. He was quite content that the action should be tried on the first available day next sittings, and that his Lordship should hear the case or Mr. Justice Farwell. Defendants were willing to accept short notice of trial, and to go to trial without pleadings.

Mr. Bramwell Davis said that the plaintiffs would agree to that, but the defendants must not build any higher in the meantime.

Mr. McCall said he would give no undertaking.

Mr. Bramwell Davis said that the defendants would be amply protected by the plaintiffs' undertaking in damages, for any expense they might be put to by not being able to build beyond the old height in the meantime.

Mr. McCall said he would not give any undertaking.

Mr. Bramwell Davis replied that in those circumstances he pressed for an *interim* injunction.

His Lordship said he would hear the case later in the day.

Later in the day it was arranged that Mr. Justice Bucknill should write to Mr. Justice Farwell, and ask him to try the action on October 27. If Mr. Justice Farwell could not try the case then, Mr. Justice Bucknill would try it. The defendants gave an undertaking not to build the wall complained of on the Beaufort House site higher than another 14 ft. in the meantime, the plaintiffs giving defendants an undertaking in damages.

ANCIENT LIGHT DISPUTE SETTLED.

The case of the London Joint Stock Bank, Ltd., *v.* the Westminster Trust, Ltd., and J. Lyons and Co., Ltd., came before Mr. Justice Bucknill, sitting as Vacation Judge on Wednesday.

On the case being called on, counsel for the plaintiffs said that the motion was for an *interim* injunction to restrain the defendants till the trial building so as to interfere with the plaintiffs' ancient lights. Both defendants had consented to a perpetual injunction, and to treat the motion as the trial of the action, and to pay costs.

His Lordship assented to this arrangement.

PATENTS OF THE WEEK.

APPLICATIONS PUBLISHED.*

22,688 of 1902.—T. Sherwood: *Joint for Connecting Lead Pipes to Earthenware Closet Pans.*

This relates to a construction of joint for connecting the lead branch of a soil pipe to the earthenware spigot of a water-closet pan, the object being to make a more secure and liquid-tight joint, and also to economise the amount of solder required. A brass thimble or socket is employed of an improved form. The larger end of the socket is made cylindrical and of a sufficient diameter to receive the end of the earthenware spigot or pipe, leaving sufficient room between the two surfaces for the usual packing of spun yarn and Portland cement, the other end of the socket being reduced in diameter inside so as to form a shoulder to receive the packing, the inner pipe of the thimble projecting about an inch beyond the shoulder above mentioned, and being provided outside at about three-quarters of an inch from the end with a cup-like projection or flange all round.

24,556 of 1902.—G. F. Newman: *Swing Door Hinges.*

In "dead" hinges for use in connexion with double-action swing doors, the employment of gapped caps or equivalent locking devices connected to and moving with the oppositely swinging hinge flaps; in combination with lugs, studs, or projections also carried by the said flaps, the gaps or clearances of the locking devices being so disposed with respect to the projections that normally, or when the door is closed, the projections and gaps will coincide as the door is swung one way or the other; the projection on the one flap will move outwards through the gap of the locking device on the other flap, whilst the projection on the last named flap will be simultaneously engaged by the locking device of the first named flap and temporarily held fast.

25,416 of 1902.—J. Green and W. Green and Co., Ltd.: *Cooking Ranges, Stoves, Grates, Fireplaces, and similar Apparatus.*

In a cooking range or the like, the combination with a pivoted bottom grate having means for securing its front edge at different positions of sliding front bars, having lugs engaging guides in the side frames, and lugs or the like to connect it with the bottom grate, with or without one or more catches at the upper ends of the guides in the side frames.

16,117 of 1903.—W. J. Noble: *Folding Tables.*

A folding table, comprising top sections, hinges connecting them, a cleat provided with a recess having an inclined bottom rigidly fastened to one section and a tongue rigidly fastened to the other section, and having a projecting portion arranged to engage the cleat when the sections are extended, said projecting portion being provided with an inclined face to co-operate with the inclined bottom of the recess in the cleat.

17,205 of 1903.—A. J. Boult (L. Giraud); *Flushing Apparatus.*

A flushing apparatus for lavatories and other purposes, comprising twin tanks or a divided tank with a common cock adapted to alternately establish communication between one of the tanks and the water supply pipe, and the other tank and the flushing pipe, in such a manner that on operating the said cock one of the tanks will be filled while the other is being emptied, said tanks being provided with float valves.

17,443 of 1903.—G. C. Marks (La Société E. Roy et Cie.): *Hinges and Methods and Apparatus for Fixing same.*

A hinge, the parts of which to be fixed on the wood work are each formed by one or several fingers parallel to each other and perpendicular to the socket, provided with or without strengthening ribs and carrying holes for fixing nails or provided with perforated lugs forming a suitable angle with the fingers.

26,230 of 1902.—A. B. Jackson, E. R. Ludbrook, and G. C. Jackson: *Dust and Draught Excluder for Doors.*

This invention relates to a device to exclude dust and draught from entering a room by bad fitting doors, and consists of a strip of wood or metal which may have an indiarubber bead, which is sunk in a suitable recess in the threshold of the door to lie flush with the step. On each end of the strip are journal ends for it to turn on. Near one end of the strip is a projection for the door to meet on closing, which then turns the strip on its journal ends, causing one edge to rise and be retained against the edge of the door. On the door being opened the strip sinks into its recess. The device can be applied in the same way to the top and sides, as well as the bottom of the door.

22,735 of 1902.—H. K. G. Bamber: *Manufacture of Portland Cement.*

The process of conditioning and regulating the setting time of cement, consisting in bringing steam in contact with the cement during grinding.

13,550 of 1903.—J. Parker: *Jointing of Drain Pipes or Conduits.*

The application to the spigot end of a drain pipe or conduit of a ring or collar having a channel within it for receiving the liquid cement and rounded at its extreme end so as to permit easy entry into the socket, and to compress the mastic or plastic substance lying within the angle of same.

17,812 of 1903.—L. Klefisch (J. Klefisch): *Manufacture of Bricks from Slate Waste and Lime.*

A process for the manufacture of building bricks more particularly from slate and lime, in which waste slate and lime are broken up, ground, and sifted in a suitable mixture, moistened with a small quantity of water, and pressed into moulds; the treatment of the bricks produced by this process, in which the moulded bricks are subjected, when they have set, to the action of heated air, which must remain at a temperature slightly below 100 deg. C., so that in consequence of the evaporation of water a hard surface-layer of silicate of lime, or calcium hydro-silicate, is formed on the moulded material.

17,556 of 1903.—J. Kahn: *Composite Structural Members for Use in the Construction of Buildings, Bridges, and the like.*

In a composite structural member, the combination with an integral cementitious body material of a main longitudinally disposed metallic strengthening member, of a plurality of arms struck upward from the main member obliquely in opposite directions from the middle line of said member to form a part-truss, the remainder of said truss being completed by the cementitious body material.

17,680 of 1903.—S. Sanders: *Ventilator.*

This invention is a ventilator intended to be placed in a sash window-frame. It consists of a board fitted into the window-frame and provided with holes which are covered with fine wire gauze, which allows the room to be ventilated but prevents the ingress of dust.

23,665 of 1902.—W. Ingham, B. Langton, and L. Ingham: *Improved Continuous Kiln.*

This relates to kilns of the continuous type, for burning bricks, tiles, earthenware, and the like. According to the invention, the kiln is made of the usual materials, and is preferably oblong or square in plan. It is divided into a number of chambers, separated by walls. These chambers are arranged side by side to ensure uniform distribution of heat, each chamber is provided with two combustion flues, one at each end. Their top sides are on the same level as the floor of the chamber, and are perforated or formed of bars. These flues, which are controlled by dampers, convey air from the outside of the kiln to support combustion. Race holes or passages are provided in the division walls between a flue in one chamber and that in the adjacent chamber. Nearer the top of the walls are similar race holes, each provided with a damper which is actuated from the feed chamber in the upper part of the kiln, and by this means communication can be made between each chamber and the adjoining one. When the outside wall of the kiln forms one side of the chamber, these holes communicate with one another and also with the adjoining chamber by means of a transverse passage, which is regulated by dampers. Under each chamber and parallel to the combustion flues is a cross flue having its top side perforated or formed of bars: this cross flue communicating with the main flue.

* All these Applications are in the stage in which opposition to the grant of Patents upon them can be made.

MEETINGS.

Monday, October 19.

Sanitary Institute (Lectures for Sanitary Officers).—Mr. W. C. Tyndale on "Calculations, Measurements and Plans and Sections." 7 p.m.

Liverpool Architectural Society.—Mr. Peter Cowell, City Librarian, on "Venice," illustrated by limelight views (to be held at public library, William Brown-street).

Tuesday, October 20.

Institute of Sanitary Engineers (Lectures in Practical Sanitary Science).—Mr. N. W. Hoskins on "Hydraulics and Hydrostatics." 7 p.m.

Wednesday, October 21.

Builders' Foremen and Clerks of Works Institution.—Quarterly meeting of the members. 8 p.m.

Architectural Association (Discussion Section).—Mr. J. W. Benwell on "Siena." 7.30 p.m.

Thursday, October 22.

Sanitary Institute (Lectures for Sanitary Officers).—Professor R. Elsey Smith on "Building Materials." 7 p.m.

Carpenters' Hall (Lectures on Sanitary Building Construction).—Mr. H. Phillips Fletcher on "Properties and Qualities of Building Materials and how to use them; Timber decay and preservation." 7.30 p.m.

Friday, October 23.

Sanitary Institute (Lectures for Sanitary Officers).—Professor R. Elsey Smith on "Sanitary Building Construction and Planning: Soil and Local Physical Conditions." 7 p.m.

Glasgow Technical College Architectural Craftsmen's Society.—Messrs. A. H. Morton and G. H. Gibson on "Reinforced Concrete." 8 p.m.

Junior Institution of Engineers.—Annual General Meeting at the Westminster Palace Hotel. 8 p.m.

Saturday, October 24.

Sanitary Institute (Demonstration for Sanitary Officers).—Inspection at Charing Cross Hospital new buildings. 3 p.m.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

October 1.—By Grimley & Son (at Birmingham).

Yardley, Worcester.—The Grove Estate, 24 a. 2 r. 32 p., f.	£6,200

By Hampton & Sons (at Bristol).

Churchill, Somerset.—Two enclosures of land, 0 a. 3 r. 9 p., f.	100
Ubley, Somerset.—Ubley Warren Farm, 181 a. 2 r. 36 p., f.	825
Enclosure of land, 7 a. 0 r. 26 p., f.	100
Compton Martin, Somerset.—Freehold house and 16 a. 3 r. 22 p.	145

October 2.—By Willson & Phillips (at Burnham-on-Crouch).

Creeksea, Essex.—The White House Estate, with 19 oyster pits, 49 a. 1 r. 20 p., f.	4,600

October 3.—By Spelmans (at Norwich).

Wroxham, Norfolk.—Lanbeevar and 1 a. 2 r. 21 p., f., p.	1,000

By Churton, Elphick, & Co. (at Chester).

Hargrave, Cheshire.—The Church Farm, 102 a. 0 r. 30 p., f.	4,300
Two cottages and 2 a. 3 r. 33 p., f.	475
Two pieces of land, 5 a. 3 r. 25 p., f.	325

October 5.—By Protheroe & Morris.

Chingford.—Chingford-rd., a freehold building plot	100
Bulpham, Essex.—Pye Corner Field, 3 a. 2 r. 14 p., f.	150
Orsett, Essex.—London-rd., &c., 42 plots of freehold building land (in one block)	260

October 6.—By C. W. Davies & Son.

Holloway.—58, Marlborough-rd., u.t. 64 yrs., g.r. 7*l.* 7s., y.r. 38*l.*	350
Barnsbury.—2, Matilda-st., u.t. 40 yrs., g.r. 1*l.* 3s., q.r. 34*l.*	370

46, 48, and 50, Wellington-rd., u.t. 8 yrs., g.r. 11*l.*, y.r. 88*l.* £200

By Edwin Evans.

Wandsworth.—60, Fullerton-rd., f., w.r. 37*l.* 14s.... 400
Battersea.—115, Harbut-rd., u.t. 75 yrs., g.r. 6*l.* 10s., w.r. 39*l.* .....
102, Falcon-rd., u.t. 24½ yrs., g.r. 6*l.*, y.r. 55*l.*; also f.g.r. 10*l.*, reversion in 24¾ yrs..... 290

By Rutley, Son, & Vine.

Regent's Park.—20, Albert-st., u.t. 38 yrs., g.r. 5*l.* 10s., p. 855
Stockwell.—186, Stockwell-rd., u.t. 74 yrs., g.r. 10*l.* 10s., p. 755
Holloway.—17, Denmark-ter., u.t. 58 yrs., g.r. 5*l.*, w.r. 40*l.* 6s. 560
Highgate.—5, Churchill-rd., u.t. 61 yrs., g.r. 5*l.*, y.r. 36*l.* 345
St. Pancras.—92 and 94, Drummond-st., u.t. 16 yrs., g.r. 3*l.*, w.r. 123*l.* 10s. 370
King's Cross.—Albion-st., &c., l.g.r. 13*l.*, u.t. 40 yrs., g.r. 6*l.* 400
22, Albion-st., u.t. 51 yrs., g.r. 6*l.* 6s., q.r. 35*l.* ... 110

By E. Simpson.

Old Kent-rd.—28 to 36 (even), Trafalgar-rd., u.t. 28 yrs., g.r. 17*l.* 15s. 6d., y.r. 168*l.*..... 390
New Kent-rd.—17 to 25 (odd), Ripley-st., f., w.r. 93*l.* 12s. 1,040

October 7.—By Francis Dod & Co.

Stoke Newington.—119, Evering-rd., u.t. 72 yrs., g.r. 9*l.*, p. 895
Edmonton.—1 to 4, Myrtle-cottages, f., w.r. 88*l.* 8s. 525

By Foster & Cranfield.

Hackney.—8 and 9, London-pl., with workshops in rear, u.t. 61½ yrs., g.r. 18*l.*, e.r. 99*l.*..... 815
Soho.—31, Wardour-st. (S.), beneficial lease for 16 yrs., r. 100*l.* .....

By A. Harris & Co.

Bayswater.—9, Talbot-rd., u.t. 46 yrs., g.r. 9*l.*, y.r. 65*l.* 700
West Ham.—17, Bolton-rd., u.t. 85½ yrs., g.r. 2*l.* 16s., w.r. 32*l.* 10s. .....

By Higgs & Parsons.

Finchley.—29, Park Hall-rd., u.t. 78½ yrs., g.r. 6*l.*, y.r. 32*l.* 1,000
High Barnet, Herts.—17, The Avenue, f., e.r. 50*l.* .....

By F. Jolly & Co.

Hackney.—5, Terrace-rd. (S.), u.t. 41¼ yrs., g.r. 7*l.*, y.r. 40*l.* 750
Dulwich.—58, 68, 70, 72, and 74, Park-rd., u.t. 69 yrs., g.r. 42*l.* 10s., y.r. 232*l.* 10s. .....
113, 115, 117, and 123, South Croxted-rd., u.t. 69 yrs., g.r. 32*l.*, y.r. 152*l.* 360

By Boyton, Sons, & Buckmaster (at Fulham).

Fulham.—1a, 1 to 27 (odd), Racton-rd., u.t. 96 yrs., g.r. 97*l.* 10s., w.r. 819*l.* 2,320
39 and 40, Crondace-rd., u.t. 76 yrs., g.r. 14*l.*, y.r. 85*l.* .....

By Hards & Bradly (at Hove).

Hove, Sussex.—28, Tamworth-rd., f., w.r. 29*l.* 18s. 1,330
By Balch & Balch (at Camden Town).
Camden Town.—15, St. Augustine's-rd., u.t. 43 yrs., g.r. 8*l.* 10s., p. .....
Kentish Town.—129, Malden-rd., u.t. 42 yrs., g.r. 8*l.*, y.r. 40*l.* 575
32, Grafton-rd., u.t. 17½ yrs., g.r. 5*l.*, w.r. 57*l.* 4s. 420
October 8.—By C. C. & T. Moore. 230
Leytonstone.—506, High-rd., f., p..... 1,600

By Norris, Sons, & Hadley.

Portman-sq.—11, Old Quebec-st., u.t. 7 yrs., g.r. 80*l.*, p. .....
St. John's Wood.—33, 34, and 38, New-st., and 5, Barrow Hill-rd., u.t. 14 yrs., g.r. 20*l.* 10s., w.r. 253*l.* 250

By Walter Simmonds.

Camberwell.—90 to 98 (even), Kenbury-st., f., w.r. 179*l.* 8s..... 1,105
Norwood.—7, Casewick-rd., f., y.r. 40*l.* .....

By Skilton & Goulden.

Lewisham.—8, Gilmore-rd., u.t. 54 yrs., g.r. 6*l.*, y.r. 33*l.* .....

By Wm. Stevens.

Kingsland.—22, Enfield-rd., u.t. 20 yrs., g.r. 4*l.*, y.r. 38*l.* 2,125
Clapton.—178, Millfields-rd., f., w.r. 52*l.* 600
De Beauvoir Town.—11 to 23 (odd), Bentley-rd., and 8, Tottenham-rd., with warehouse, &c., u.t. 12½ yrs., g.r. 61*l.* 10s., y.r. 172*l.* 14s. .....
50, Englefield-rd., u.t. 20 yrs., g.r. 7*l.*, e.r. 42*l.* ... 340

By Stimson & Sons.

Islington.—20, Upper-st. (s.), f., y.r. 65*l.* 150
Norwood.—51, Belvedere-rd., f., y.r. 45*l.* 500
Haggerston.—48 to 58 (even), 74, 76, and 78, Whiston-st. (with workshops), f., w.r. 358*l.* 16s. .....

By Wriford, Dixon, & Winder.

Brixton.—Kilcoran-rd., f.g.r. 26*l.*, reversion in 91 yrs. 270
By Willson & Phillips (at Leigh). 310
Leigh, Essex.—8 to 11, New-rd., f., w.r. 52*l.* .....

By Hards & Bradly (at Greenwich).

Greenwich.—17, 19, and 21, Tuskar-st., u.t. 72 yrs., g.r. 10*l.* 13s., w.r. 98*l.* 16s. 1,820
104 and 106, Greenwich-rd., u.t. 29 yrs., g.r. 24*l.*, y.r. 76*l.* 465
2 to 12 (even), Armitage-rd., u.t. 53 yrs., g.r. 27*l.*, w.r. 157*l.* 6s. .....
1, 3, and 5, Collerston-rd., u.t. 53 yrs., g.r. 13*l.* 10s., w.r. 93*l.* 12s. .....
47 to 53 (odd), Glenister-rd., u.t. 53 yrs., g.r. 18*l.*, w.r. 110*l.* 10s..... 3,485

By J. Hood & Son (at Stratford).

Leyton.—41 and 45, Colville-road, u.t. 85 yrs., g.r. 8*l.*, y.r. 50*l.* .....

October 9.—Dennant & Co.

New Cross.—245 and 247, New Cross-rd., u.t. 42 yrs., g.r. 12*l.*, y.r. 90*l.* 650
By A. Robertson. 800
Battersea.—20, Leathwaite-rd., u.t. 78 yrs., g.r. 8*l.*, y.r. 40*l.* .....
Bermondsey.—20 and 22, Anchor-st., u.t. 32 yrs., g.r. 6*l.*, w.r. 54*l.* 12s. .....
23, Ambrose-st., u.t. 34 yrs., g.r. 3*l.*, w.r. 26*l.*.... 600
21, Alexis-st., u.t. 30 yrs., g.r. 3*l.* 4s., w.r. 26*l.* 435
Hammersmith.—1 to 7, Guillard's-court, f. and c., w.r. 97*l.* 10s. 1,245
Deptford.—5 and 7, Douglas-ter., u.t. 30 yrs., g.r. 6*l.*, w.r. 67*l.* 12s. 660
***Contractions used in these lists.*—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; e.r. for estimated rental; w.r. for weekly rental; q.r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; la. for lane; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gdns. for gardens; yd. for yard; gr. for grove; b.h. for beer-house; p.h. for public-house; o. for offices; s. for shops.** 730

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£ s. d.		
Hard Stocks	1 16 0	per 1,000 alongside, in river.	
Rough Stocks and Grizzles.....	1 13 0	,,	,,
Facing Stocks....	2 12 0	,,	,,
Shippers	2 5 0	,,	,,
Flettons	1 10 0	,,	at railway depôt
Red Wire Cuts ..	1 13 0	,,	,,
Best Fareham Red	3 12 0	,,	,,
Best Red Pressed Ruabon Facing	5 0 0	,,	,,
Best Blue Pressed Staffordshire ..	4 5 0	,,	,,
Do. Bullnose	4 11 0	,,	,,
Best Stourbridge Fire Bricks	4 8 0	,,	,,
Glazed Bricks.			
Best White and Ivory Glazed Stretchers.....	13 0 0	,,	,,
Headers	12 0 0	,,	,,
Quoins, Bullnose, and Flats.....	17 0 0	,,	,,
Double Stretchers	19 0 0	,,	,,
Double Headers..	16 0 0	,,	,,
One Side and two Ends.....	19 0 0	,,	,,
Two Sides and one End	20 0 0	,,	,,
Splays, Chamfered, Squints.....	20 0 0	,,	,,
Best Dipped Salt Glazed Stretchers and Headers	12 0 0	,,	,,
Quoins, Bullnose, and Flats.....	14 0 0	,,	,,
Double Stretchers	15 0 0	,,	,,
Double Headers..	14 0 0	,,	,,
One Side and two Ends.....	15 0 0	,,	,,
Two Sides and one End	15 0 0	,,	,,
Splays Chamfered, Squints.....	14 0 0	,,	,,
Second Quality White and Dipped Salt Glazed	2 0 0	,,	less than best.

	s. d.	
Thames and Pit Sand	6 9	per yard, delivered.
Thames Ballast	6 0	,, ,,
Best Portland Cement	30 0	per ton, delivered.
Best Ground Blue Lias Lime..	20 6	,, ,,

Note.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 12s. 0d. per yard, delivered.
Stourbridge Fire-clay in sacks 27s. 6d. per ton at rly. dpt.

STONE.

	s. d.	
Bath Stone—delivered on road waggons, Paddington depôt	1 6½	per ft. cube.
Do. do. delivered on road waggons, Nine Elms depôt	1 8½	,, ,,
Portland Stone (20 ft. average)—		
Brown Whitbed, delivered on road waggons, Paddington depot, Nine Elms depot, or Pimlico Wharf	2 1	,, ,,
White Basebed, delivered on road waggons, Paddington depot, Nine Elms depot, or Pimlico Wharf.....	2 2½	,, ,,
Ancaster in blocks	1 11	per ft. cube, deld rly. depôt
Beer in blocks	1 6	,, ,,
Grinshill ,, ...	1 10	,, ,,
Darley Dale in blocks..	2 4	,, ,,
Red Corsehill ,,	2 5	,, ,,
Closeburn Red Freestone	2 0	,, ,,
Red Mansfield ,,	2 4	,, ,,
York Stone—*Robin Hood Quality.*		
Scappled random blocks	2 10	per ft. cube, deld. rly. depôt.
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 3	per foot super. ,,
6 in. Rubbed two sides Ditto, Ditto	2 6	,, ,,
3 in. Sawn two sides slabs (random sizes)..	0 11½	,, ,,
2 in. to 2½ in. Sawn one side slabs (random sizes)	0 7½	,, ,,
1¼ in. to 2 in. ditto, ditto	0 6	,, ,,
Scappled random blocks	3 0	per ft. cube ,,
6 in. sawn two sides, landings to sizes (under 40 ft. sup.)	2 8	per ft. super. ,,
6 in. Rubbed two sides Ditto	—	,, ,,
3 in. sawn two sides slabs (random sizes)	1 2	,, ,,
2 in. self-faced random flags.....	0 5	,, ,,
Hopton Wood (Hard Bed) in blocks	2 3	per ft. cube.
,, ,, ,, 6 in. sawn both sides landings	2 7	per ft. super. deld. rly. depôt
,, ,, ,, 3 in. do.	1 2½	,, ,,

SLATES.

in.	in.	£ s. d.	
20×10 best blue Bangor..		13 2 6	per 1000 or 1200 at ry. dep.
20×12 ,, ,, ,,		..13 17 6	,, ,,
20×10 best seconds ,,		12 15 0	,, ,,
20×12 ,, ,, ,,		13 10 0	,, ,,
16×8 best ,,		7 0 0	,, ,,

PRICES CURRENT (*Continued*).

SLATES.

in.	in.	£ s. d.	
20×10 best blue Portmadoc		1 2 6	per 1000 or 1200 at ry. dep.
16×8 best blue Portmadoc		6 12 6	,, ,,
20×10 best Eureka unfading green....		15 2 6	,, ,,
20×12 best Eureka unfading green....		17 2 6	,, ,,
18×10 ,, ,,		12 10 0	,, ,,
16×8 ,, ,,		10 5 0	,, ,,
20×10 permanent green		11 10 0	,, ,,
18×10 ,, ,,		9 10 0	,, ,,
16×8 ,, ,,		6 10 0	,, ,,

TILES.

	s. d.	
Best plain red roofing tiles...	42 0	per 1,000, at rly. depôt.
Hip and valley tiles....	3 7	per doz. ,, ,,
Best Broseley tiles	50 0	per 1,000 ,, ,,
Do. Ornamental Tiles	52 6	,, ,,
Hip and valley tiles....	4 0	per doz. ,, ,,
Best Ruabon Red, brown or brindled Do. (Edwards)	57 6	per 1,000 ,, ,,
Do. ornamental Do. 60	0	,, ,, ,,
Hip tiles	4 0	per doz. ,, ,,
Valley tiles.....	3 0	,, ,, ,,
Best Red or Mottled Staffordshire Do. (Peakes)	51 9	per 1,000 ,, ,,
Do. Ornamental Do. 54	6	,, ,, ,,
Hip tiles	4 1	per doz. ,, ,,
Valley tiles.....	3 8	,, ,, ,,
Best "Rosemary" brand plain tiles	48 0	per 1,000 ,, ,,
Do. Ornamental Do. 50	0	,, ,, ,,
Hip tiles	4 0	per doz. ,, ,,
Valley tiles	3 8	,, ,, ,,

WOOD.

	At per standard. £ s. d.	£ s. d.	
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.....	15 10 0	16 10 0	
Deals: best 3 by 9.....	14 10 0	15 10 0	
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.....	11 10 0	12 10 0	
Battens: best 2½ by 6 and 3 by 6 ..	0 10 0	less than 7 in. and 8 in.	
Deals: seconds	1 0 0	less than best	
Battens: seconds	0 10 0	,, ,, ,,	
2 in. by 4 in. and 2 in. by 6 in. ..	9 0 0	9 10	
2 in. by 4½ in. and 2 in. by 5 in. ..	8 10 0	9 10	
Foreign Sawn Boards— 1 in. and 1¼ in. by 7 in.	0 10 0	more than battens.	
¾ in.	1 0 0	,,	
Fir timber: Best middling Danzig or Memel (average specification	At per load of 50 ft. 4 10 0	5 0 0	
Seconds	4 5 0	4 10 0	
Small timber (8 in. to 10 in.)	3 12 6	3 15 0	
Small timber (6 in. to 8 in.).....	3 0 0	3 10 0	
Swedish balks	2 15 0	3 0 0	
Pitch-pine timber (30 ft. average)..	3 5 0	3 15 0	

Joiners' Wood.

	At per standard.		
White Sea: First yellow deals, 3 in. by 11 in.....	23 0 0	24 0 0	
3 in. by 9 in.	21 0 0	22 10 0	
Battens, 2½ in. and 3 in. by 7 in.	17 0 0	18 10 0	
Second yellow deals, 3 in. by 11 in.	18 10 0	20 0 0	
,, ,, 3 in. by 9 in.	17 10 0	19 0 0	
Battens, 2½ in. and 3 in. by 7 in.	13 10 0	14 10 0	
Third yellow deals, 3 in. by 11 in. and 9 in.	15 10 0	16 10 0	
Battens, 2½ in. and 3 in. by 7 in.	11 10 0	12 10 0	
Petersburg: first yellow deals, 3 in. by 11 in.	21 0 0	22 10 0	
Do. 3 in. by 9 in.....	18 0 0	19 10 0	
Battens.....	13 10 0	15 0 0	
Second yellow deals, 3 in. by 11 in.....	16 0 0	17 0 0	
Do. 3 in. by 9 in.	14 10 0	16 0 0	
Battens.....	11 0 0	12 10 0	
Third yellow deals, 3 in. by 11 in.....	13 10 0	14 0 0	
Do. 3 in. by 9 in.	13 0 0	14 0 0	
Battens	10 0 0	11 0 0	
White Sea and Petersburg:— First white deals, 3 in. by 11 in.	14 10 0	15 10 0	
,, ,, 3 in. by 9 in.	13 10 0	14 10 0	
Battens.....	11 0 0	12 0 0	
Second white deals 3 in. by 11 in.	13 10 0	14 10 0	
,, ,, ,, 3 in. by 9 in.	12 10 0	13 10 0	
,, ,, ,, battens.....	9 10 0	10 10 0	
Pitch-pine: deals	16 0 0	18 0 0	
Under 2 in. thick extra	0 10 0	1 0 0	
Yellow Pine—First, regular sizes ..	33 0 0	upwards.	
Oddments	22 0 0	24 0 0	
Seconds, regular sizes	24 10 0	26 10 0	
Yellow Pine Oddments	20 0 0	22 0 0	
Kauri Pine—Planks, per ft. cube..	0 3 6	0 4 6	
Danzig and Stettin Oak Logs— Large, per ft. cube	0 2 6	0 3 6	
Small ,, ,, ...	0 2 3	0 2 6	
Wainscot Oak Logs, per ft. cube ..	0 5 0	0 5 6	
Dry Wainscot Oak, per ft. sup. as inch	0 0 7	0 0 8	
¾ in. do. do.	0 0 6½	- - -	
Dry Mahogany—Honduras, Tabasco, per ft. sup. as inch	0 0 9	0 0 11	
Selected, Figury, per ft. sup. as inch	0 1 6	0 2 0	
Dry Walnut, American, per ft. sup. as inch	0 0 10	0 1 0	
Teak, per load	17 0 0	21 0 0	
American Whitewood Planks— Per ft. cube	0 4 0	- -	

Prepared Flooring—	Per square.	
1 in. by 7 in. yellow, planed and shot.....	0 13 6	0 17 6
1 in. by 7 in. yellow, planed and matched.....	0 14 0	0 18 0
1¼ in. by 7 in. yellow, planed and matched.....	0 16 0	1 1 6
1 in. by 7 in. white, planed and shot.....	0 11 6	0 13 6
1 in. by 7 in. white, planed and matched.....	0 12 0	0 14 0
1¼ in. by 7 in. white, planed and matched.....	0 14 6	0 16 6
¾ in. by 7 inch yellow matched and beaded or V-jointed boards	0 11 0	0 13 6
1 in. by 7 in. do. do. do.	0 14 0	0 18 0
¾ in. by 7 in. white do. do.	0 10 0	0 11 6
1 in. by 7 in. do. do. do.	0 11 6	0 13 6

6-in. at 6d. to 9d. per square less than 7-in.

[*See also page 397.*

COMPETITIONS, CONTRACTS AND PUBLIC APPOINTMENTS.

(For some Contracts, &c., still open, but not included in this List, see previous issues.)

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered
Shops and Houses, Fore-street	Kilmarnock (N.B.) Corporation	15*l.* 15s., 10*l.* 10s., 5*l.* 5s.	Nov. 9
Public Library, Skewer, Neath	Coedtrane Parish Council	10*l.* 10s.	do.
*Public Library, Herne Hill	Lambeth Borough Council	Not stated	No date.
*New Cotton Exchange	Liverpool Cotton Association, Ltd.	Not stated	do.

CONTRACTS.

Nature of Work or Materials.	By whom Advertised.	Forms of Tender, &c., supplied by	Tenders to be delivered
Baths, Wakefield-road	Bradford Corporation	F. E. P. Edwards, Architect, Brewery-street, Bradford	Oct. 19
Minister's House, Weru, Minera, Wrexham		D. Roberts, Weru Cottage, Minera	do.
Street Works, Sun & Thorn Sts., nr. Ashby-de-la-Zouch	R.D.C.	G. Farmer, Council Offices, Ashby-de-la-Zouch	Oct. 20
Additions to Police Station, Slough	Bucks County Council	R. J. Thomas, Civil Engineer, County Hall, Aylesbury	do.
Retaining Walls, Carlinghow-lane	Batley Town Council	Borough Surveyor, Branch-road, Batley	do.
Road Works, St. Leonard's Estate, Esholt, Yorks		Empsall & Clarkson, Architects, 7, Exchange, Bradford	do.
Roof over Wharf, Royal Victoria Dock, E.	G.W.R. Co.	G. K. Mills, Paddington Station	do.
Water Supply Plant, Workhouse, Stratton, Wilts	Swindon and Highworth Guardians	J. P. Kirby, Union Offices, Swindon	do.
Road Works, Corsey, Edge and Park Lanes	Sefton (near Liverpool) R.D.C.	Jas. Roscoe, Surveyor, Kirkby	do.
Sewage and Water Supply Works, Waltham Abbey	Waltham Holy Cross U.D.C.	W. T. Streather, Surveyor, Waltham Abbey	do.
Reservoir, &c.	Street (Somerset) U.D.C.	A. P. T. Cotterell, Civil Engineer, 28, Baldwin-street, Bristol	do.
Cast-Iron Pipes and Castings (1,850 tons)	Grangeworth (N.B.) Town Council	Warren & Stuart, Civil Engineer, 94, Hope-street, Glasgow	do.
Road Works	Bootle (Lancs.) Corporation	Borough Engineer, Town Hall, Bootle, Lancs.	do.
Asphalt Works, &c. at Schools	Worsborough School Board	W. Haigh, Schoolhouse, Worsborough Common	do.
Sewering, &c., Sun-st. & Thorn-rd., Ashby-de-la-Zouch	Hartshorne and Seals R.D.C.	G. Farmer, Council Offices, Ashby-de-la-Zouch	do.
Sewage Disposal Works	Thurstonland (Yorks) U.D.C.	Haller & Machell, Engineers, Corporation Chambers, Dewsbury	Oct. 21
Sewerage Works, &c., Canton	Cardiff Corporation	W. Harper, Civil Engineer, Town Hall, Cardiff	do.
Additions to Bakehouse	Ashington Indus. Co-Op. Soc. Ltd.	J. Magin, Society's Offices, Ashington, Northumberland	do.
Additions to Corn Exchange, Northgate	Rochester Corporation	W. Banks, Civil Engineer, Guildhall, Rochester	do.
Road Works, &c., at Isolation Hospital	Llantrisant & Llantwit Fardre RDC	G. S. Morgan, Surveyor, School-street, Pontyclun	do.
Two Houses, Bankhouse-lane, Pudsey, Yorks		C. S. Nelson, Architect, 15, Park-row, Leeds	do.
Cast-Iron Pipes	Salford Corporation	Borough Engineer, Town Hall, Salford	do.
Street Works, &c., Rokeby-street, also other streets	Hartlepool Corporation	H. C. Crummack, Civil Engineer, Borough-buildings, Hartlepool	do.
Club Premises, Camborne, Cornwall	Committee of Mining Schools	James Negus, Secretary, Camborne, Cornwall	do.
Chimney, &c., Globe Works, Colne-road, Huddersfield		J. Kirk & Sons, Architects, Huddersfield	Oct. 22
Schools, Air Balloon-street, St. George	Bristol School Board	La Trobe & Weston, Architects, Bristol	do.
Seventeen Cottages, Dashwood-road, Prestwich	Industrial Society, Ltd.	Secretary, Society's Offices, Warwick-street, Prestwich	do.
Street Works	Southend Corporation	E. J. Elford, Civil Engineer, Town Hall, Southend	do.
Flints and Gravel Road Metal	Deal Corporation	T. C. Golder, Borough Surveyor, 23, Queen-street, Deal	do.
Road Works, Loveday-road	Ealing T.C.	C. Jones, Civil Engineer, Town Hall, Ealing	do.
*Terra Cotta for Chief Fire Station and Police Station	Manchester Corporation	City Treasurer, Town Hall, Manchester	Oct. 23
Shops and Houses, Gibraltar-street, Sheffield		Hemsoll & Chapman, Architects, 18, Norfolk-row, Sheffield	do.
Villa Residence, Stotfield, N.B.	Leicester Corporation	J. Wittel, Architect, Elgin	do.
Car Sheds, Offices, &c.	Swindon Corporation	E. G. Mawbey, Civil Engineer, Town Hall, Leicester	do.
Road Works, Cricklade-road	St. George-in-the-East Guardians	H. J. Hamp, Borough Surveyor, Town Hall	do.
*Sundry Works to Infirmary	Admiralty	Guardians' Offices, Raine-street, Old Gravel-lane, E.	do.
*Coast Guard Detachment, St. Govan's Head, Pembroke		Civil Engineer, H.M. Dockyard, Pembroke Dock	do.
*Laying-out 3½ Acres of Land for Tennis Courts	Bexhill (Sussex) Corporation	C. M. Cobb, Architect, Old Vestry Offices, Enfield	Oct. 24
Coronation Clock Tower, &c., West Parade	The Presbyterians	G. Ball, Civil Engineer, Town Hall, Bexhill	do.
Alterations to Church, Antrim	Waterloo (Lancs) U.D.C.	W. D. R. Taggart, Architect, 11, Bridge-street, Belfast	do.
Wrot-Iron Railing and Gates, Victoria Park	Wallsend (Northumberland) Corp.	F. S. Yates, Civil Engineer, Town Hall, Waterloo	do.
Road Works, Back Turnpike-row	Hornsey U.D.C.	G. Hollings, Borough Surveyor, High-street, Wallsend	do.
*Road and Sewer Works, Brampton Park-road	do.	Council's Engineer, 99, Southwood-lane, Highgate, N.	Oct. 26
*Highgate Outfall Sewer	Melcombe Regis Burial Board	do.	do.
Paving Works at Cemetery, Westham, Weymouth	Cardiff School Board	S. Jackson, Surveyor, Bridge Chambers, Weymouth	do.
Schools, Llainshen-street, the Heath	Harrogate Corporation	Veall & Sant, Architects, High-street, Cardiff	do.
Pump Room, &c., Valley Gardens	Hertfordshire County Council	T. Bagshaw, Borough Surveyor, Municipal Offices, Harrogate	do.
Bridge Works, Meesden Bridge	Wolverhampton Corporation	N. A. Smith, County Surveyor, Hatfield	do.
Sinking Borehole, &c.	Woodford (Essex) U.D.C.	E. A. B. Woodward, Civil Engineer, Town Hall, Wolverhampton	do.
Sewerage and Sewage Disposal Works, &c.	do.	W. Farrington, C.E., Council Offices, Woodford Green, Essex	do.
Sewerage Works, &c. (Contracts 1 and 2)	Mr. T. Wilkinson	do.	do.
Nine Houses, Darfield, Yorks	Bradford Guardians	A. B. Linford, Architect, Carlton Villas, Wombwell, Yorks	do.
Hospital Pavilion, Horton-lane	Bury (Lancs) Corporation	F. Holland, Engineer, 11, Parkinson Chambers, Bradford	do.
Taking Down and Re-erecting Shop, 10, Water-street	Mountain Ash U.D.C.	A. W. Bradley, Borough Engineer, Bank-street, Bury	Oct. 27
Sewers, &c., Caergaw	Canterbury Corporation	H. P. Linton, Town Hall, Mountain Ash, Wales	do.
Sewage Tank, &c., Sturry-road	do.	City Engineer, Guildhall-street, Canterbury	do.
Septic Tanks and Works at Sewage Farm, Sturry-rd.	do.	do.	do.
Sewer, &c., Stephen's and Broad Oak-roads	Glemsford (Suffolk) U.D.C.	do.	do.
Borehole, &c., in connection with Water Supply Works	London County Council	J. T. Eayrs, Civil Engineer, 39, Corporation-street, Birmingham	do.
*Dwellings for Working Class, Hackney	Dorset Standing Joint Committee	Architect's Department, 19, Charing Cross-road, W.C.	do.
*Additions to Police Station, Portland	Derwent Valley Water Board	County Surveyor, Shire Hall, Dorchester	do.
Aqueduct	City of Westminster	E. Sandeman, Engineer, Bamford, near Sheffield	Oct. 28
Additions to Institute, Pontygwaith	Holyhead U.D.C.	The Secretary, Institute, Pontygwaith	do.
*Reconstruction of Slipper Baths, &c., at Marshall-street	H.M. Office of Works	Works Department, Westminster City Hall, Charing Cross-rd., W.C.	do.
*Chimney Shaft for Destructor Works	Sheffield United Gaslight Co.	P. F. White, Electricity Works, Bangor, N. Wales	Oct. 30
*New Postal Stores at Islington	Hastings Corporation	H.M. Office of Works, Storey's Gate, Westminster, S.W.	do.
Mortuary Chapel, &c., Effingham-street	Portsmouth Borough Council	J. W. Morrison, Engineer, Commercial-street, Sheffield	Oct. 31
Granite Kerb, &c.	do.	P. H. Palmer, Civil Engineer, Town Hall, Hastings	Nov. 2
*Pumping Station, Gas Engines and Pumps, &c.	Tottenham U.D.C.	Borough Engineer, Town Hall, Portsmouth	Nov. 3
*Relief Sewer, &c.	Willesden Guardians	do.	do.
*Three Underground Conveniences	Metropolitan Asylums Board	Council's Engineer, Coombes Croft House, 712, High-rd., Tottenham	do.
*Ward Block at Infirmary, Acton-lane	do.	A. Saxon Snell, Architect, 22, Southampton Buildings, W.C.	Nov. 4
*Completion of Boundary Wall, Tooting-grove	L.C.C. Asylums Committee	Office of the Board, Embankment, E.C.	do.
*Double Hung Sashes at Leavesden Asylum, Watford	Lewisham Public Libraries Comtee.	do.	do.
*Laundry and Mortuary Buildings, Ewell	Builth R.D.C.	Asylums Engineer, 6, Waterloo-place, S.W.	Nov. 6
*Branch Library, Lower Sydenham	Belper U.D.C.	J. R. Vining, 89, Chancery-lane, W.C.	Nov. 10
Reservoir, Llanwrtyd Wells, Wales	London County Council	R. L. Bamford, Surveyor, Wildemarsh-street, Hereford	Nov. 16
Sewage Outfall Works, &c.	Oldham School Board	C. J. Lomax, Civil Engineer, 37, Cross-street, Manchester	Nov. 24
*Carriageway and Tunnel under Thames, Rotherhithe	do.	Engineers' Department, County Hall, Spring Gardens, S.W.	Jan. 19, '04
Schools, &c.	M.R. Co.	J. Rennie, School Board Offices, Oldham	No date.
Alterations to Methodist Chapel, Newhaven, Sussex		F. J. Rayner, Architect, Fort-road, Newhaven	do.
Post Office, Newhaven, Sussex	Messrs. Mather Bros.	do.	do.
Fifty Houses, Ellesmere-road, Sheffield		Gibbs & Flockton, Architects, 15, St. James'-row, Sheffield	do.
Two Semi-detached Houses, Avenue Estate, Knaresboro'		Wm. Driffield, Architect, Boroughbridge-road, Knaresborough	do.
Additions to House, West-street, Gateshead		W. R. Story, Architect, 2, St. Nicholas Buildings, Newcastle	do.
Additions to the "Claremont" Hotel, Harrogate		Butler & Co., Architects, 12, East Parade, Leeds	do.
Workshop, Stanningley, Yorks		P. Fox, Architect, 14, Manchester-road, Bradford	do.
Additions, &c., to the "New Inn," Skipton-rd., Harrog'te		H. E. & A. Bown, Architects, James-street, Harrogate	do.
House, Stabling, &c., Canal-road, Bradford		Aird & Calder Navigation Offices, Dock-street, Leeds	do.
Re-building Premises, Castle-street, Cardigan	Mr. W. George	Griffith Davies, 7, Castle-street, Cardigan	do.

[*See also next page.*

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Required.	Salary.	Application to be in
*Quantity Surveyor ..	Fulham Guardians	1½. 10s. per cent.	Oct. 19
*Surveyor	Romford U.D.C.	4l. per week	Oct. 20
*Clerk of Works	Barry U.D.C.	3l. per week	Oct. 26
*District Building Surveyor	Birmingham Corporation	3l. per week	Oct. 28
*Engineering Assistant	London County Council	500l.	Nov. 2
*Clerk of Works	Durham College of Science	Not stated	No date.

Those marked with an asterisk (*) are advertised in this Number. *Competitions*, iv. *Contracts*, iv. vi. viii. & x. *Public Appointments*, xix.

PRICES CURRENT (*Continued*).

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £ s. d.	£ s. d.
Rolled Steel Joists, ordinary sections	6 5 0	7 5 0
Compound Girders " "	8 2 6	9 5 0
Angles, Tees and Channels, ordinary sections	7 17 6	8 17 6
Flitch Plates	8 5 0	8 15 0
Cast Iron Columns and Stanchions, including ordinary patterns	7 2 6	8 5 6

METALS.

	Per ton, in London. £ s. d.	£ s. d.
IRON—		
Common Bars	7 10 0	8 0 0
Staffordshire Crown Bars, good merchant quality	8 0 0	8 10 0
Staffordshire "Marked Bars"	10 10 0	- - -
Mild Steel Bars	8 15 0	9 5 0
Hoop Iron, basis price	9 5 0	9 10 0
" " galvanised	17 0 0	- - -
(* And upwards, according to size and gauge.)		
Sheet Iron, Black.—		
Ordinary sizes to 20 g.	9 15 0	- - -
" " to 24 g.	10 15 0	- - -
" " to 26 g.	12 5 0	- - -
Sheet Iron, Galvanised, flat, ordinary quality—		
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	12 15 0	- - -
" " 22 g. and 24 g.	13 5 0	- - -
" " 26 g.	14 5 0	- - -
Sheet Iron, Galvanised, flat, best quality:—		
Ordinary sizes to 20 g.	16 0 0	- - -
" " 22 g. and 24 g.	16 10 0	- - -
" " 26 g.	18 0 0	- - -
Galvanised Corrugated Sheets:—		
Ordinary sizes, 6 ft. to 8 ft. 20 g.	12 15 0	- - -
" " 22 g. and 24 g.	13 5 0	- - -
" " 26 g.	14 0 0	- - -
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker	11 15 0	- - -
" " 22 g. and 24 g.	12 15 0	- - -
" " 26 g.	14 0 0	- - -
Cut nails, 3 in. to 6 in.	9 5 0	9 15 0
(Under 3 in. usual trade extras.)		

LEAD, &c.

	Per ton, in London. £ s. d.	£ s. d.
LEAD—Sheet, English, 3 lbs. & up.	13 17 6	- - -
Pipe in coils	14 7 6	- - -
Soil pipe	16 17 6	- - -
Compo Pipe	16 17 6	- - -
ZINC—Sheet—		
Vieille Montagne ton	26 0 0	- - -
Silesian	25 15 0	- - -
COPPER—		
Strong Sheet per lb.	0 0 10½	- - -
Thin "	0 0 11½	- - -
Copper nails "	0 0 11	- - -
BRASS—		
Strong Sheet per lb.	0 0 10	- - -
Thin "	0 0 11	- - -
TIN—English Ingots "	0 1 4	- - -
SOLDER—Plumbers' "	0 0 6	- - -
Tinmen's "	0 0 8	- - -
Blowpipe "	0 0 9	- - -

ENGLISH SHEET GLASS IN CRATES.

15 oz. thirds	2½d. per ft. delivered.
" fourths	1¾d. " "
21 oz. thirds	3½d. " "
" fourths	2¾d. " "
26 oz. thirds	3¾d. " "
" fourths	3¼d. " "
32 oz. thirds	4¼d. " "
" fourths	4¼d. " "
Fluted sheet, 15 oz.	2¾d. " "
" 21 oz.	3¾d. " "
½ Hartley's Rolled Plate	1¾d. " "
¼ " " "	2d. " "
¼ " " "	2¼d. " "

OILS, &c.

	£ s. d.
Raw Linseed Oil in pipes or barrels.. per gallon	0 1 9
Boiled " " in drums	0 2 1
" " " in pipes or barrels	0 2 0
" " " in drums	0 2 4
Turpentine, in barrels	0 3 8
" in drums	0 3 10
Genuine Ground English White Lead per ton	19 0 0
Red Lead, Dry	19 0 0
Best Linseed Oil Putty	per cwt. 0 8 0
Stockholm Tar	per barrel 1 12 0

PRICES CURRENT (*Continued*).

VARNISHES, &c.

	Per gallon. £ s. d.
Fine Pale Oak Varnish	0 8 0
Pale Copal Oak	0 10 6
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for Seats of Churches	0 14 0
Fine Elastic Carriage	0 12 6
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 16 0
Finest Pale Durable Copal	0 18 0
Extra Pale French Oil	1 1 0
Eggshell Flatting Varnish	0 18 0
White Copal Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 6
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 6
Berlin Black	0 16 0
Knotting	0 10 0
French and Brush Polish	0 10 0

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TO CORRESPONDENTS.

J. F. W. (Amounts should have been stated).—G. W. T. (Below our limit).

NOTE.—The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

All communications must be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays.* [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under 100*l.*, unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

ANNFIELD PLAIN (Durham).—The construction of settling tanks, &c., Kyo, for the Urban District Council. Mr. T. J. Trowsdale, surveyor, Council Offices, Annfield Plain:—

R. T. Johnson	£535 8 3
Wm. G. Fawsett, Annfield Plain* ..	437 10 0
[Surveyor's estimate, £454 15s. 4d.]	

ARDMEDDEN (N.B.).—The erection of farm buildings. Mr. W. Clark, architect, Methlick:—

Masonry.—Paterson & Marshall, Pitmeddan, Udny
Carpentry.—Francis Fraser, Hillbrae, Methlick
Slating.—Callander Smith, Craigdam Towers, by Old Meldrum
} £321 17 0

ASTON (Birmingham).—Conversion of schools into an Infirmary Block for Aston Union Workhouse. Messrs. C. Whitwell & Son, architects, Birmingham:—

J. E. Williams	£6,100	Elvins & Sons	£4,970
Lee & Son	5,199	T. Johnson	4,927
Dallow & Sons	5,080	A. Colin Hughes, Stratford Bdg., Birmingham*	4,835
W. S. Seamark	5,060		

BISHOP AUCKLAND.—For the execution of water-supply works, Crape Scar, Lynesack, for the Rural District Council. Mr. C. Johnston, surveyor, Cradock-street, Bishop Auckland:—

Bell's Asbestos Co., Ltd.	£310 8 6	G. Hetherington	£255 19 0
Rutter & Sons	263 3 9	Matthew Turnbull, High Grange, Howden-le-Wear*	225 15 0
Wm. Elliott	231 2 0		
Peter Frater	229 19 9		

CANNOCK (Staffs.).—For additions, &c., to workhouse laundry and rebuilding washhouses, for the Guardians. Mr. Ashton Veall, architect, 84, Darlington-street, Wolverhampton:—

E. Whittingham	£1,056	J. Bagnall	£885
J. Reynolds	985	H. Gough	865
F. Lindsey Jones	959	C. Griffiths	850
Thos. Tildesley	950	L. & R. Barton	834
Oakley & Coulson	939	T. Mason	829
F. Sprenger	935	J. M. Tildesley, Portobello, Wolverhpton*	797
T. & S. Ham	934		

COLCHESTER.—For the erection of a pair of cottages, Mersea-road. Mr. J. W. Start, architect, Cups Chambers, Colchester. Quantities by the architect:—

Potter & Son	£670	R. Beaumont	£578
R. J. Moore	650	Palmer	568
Dupont & Co.	650	Runnacles	497
W. C. Theobald	590	Chambers, Colchester*	469

DRINGHOUSES (York).—For the execution of sewerage works for the Bishopsthorpe Rural District Council. Messrs. Fairbank & Son, C.E., Lendal Chambers, York:—

Jones Bros.	£2,434 17 6
Balmforth, V.	2,275 5 6
Parker & Sharp	1,964 14 3
Edmundson & Wyatt	1,952 3 0
Keswick & Sons	1,934 0 0
Morley & Sons	1,845 0 9
Thos. Bell	1,791 9 9
W. Binns	1,790 0 0
Parkin & Co.	1,749 0 8
A. Palframan	1,723 8 6
Graham & Sons	1,714 12 3
Birkill Cyrus	1,709 9 0
A. & C. Harris	1,645 2 9
A. Dickinson	1,634 2 7
F. U. Simpson, Burton Leonard, Leeds*	1,554 12 7½

GUILDFORD.—For the supply of 600 tons of granite, for the Town Council. Mr. C. G. Mason, C.E., Town Hall, Tuns Gate, Guildford:—

	per ton.		per ton.
Fry Bros.	15 7	G. Le Maitre	14 5
Griffiths & Co.	15 6	L. Summerfeld, 2, Fowkes Bdgs., E.C.*	13 11
J. Hall	15 5	J. H. Dickson (Trusham granite)	13 6
Mowlem & Co.	15 3	G. A. Watson (Leicester granite)	11 11
E. & H. Beevers	15 1		
N. & F. Manuelle	14 11		
C. G. German	14 9		

LANCASTER.—For pavilion for the Lancaster Cricket and Bowling Club. Mr. J. Parkinson, architect. Quantities by the architect:—
W. Huntington & Sons, Lancaster*, £750.

LAVENHAM (Suffolk).—For kerbing Water-street and High-street for the Cosford Rural District Council. Mr. E. W. Veale, C.E., Bildeston, Lavenham:—
Edward J. Edwards, Norwich 2s. 6d. per yard (lineal).

LONDON.—For exterior painting at the Turin-street school for the School Board for London:—

Willmott & Son	£525	Woollaston Bros.	£450
Belcher & Co., Ltd.	499	A. Porter	446
Shurmur & Sons, Ltd.	475	W. Chappell	375
Silk & Son	470	Wales Bros.*	327

MANCHESTER.—For the erection of a new warehouse for Messrs. Jas. Spicer & Sons, in Whitworth-street, West. Quantities by the architect, Mr. J. Harold France, 7 Chapel Walks, Manchester:—

Brown & Sons	£13,853	Megarity & Co.	£13,264
Younz, Tinker, & Young	13,627	Wilson & Toft	13,256
Southern & Sons	13,320	Robt. Carlyle	13,226
		Neill & Son*	12,800

[All of Manchester.]

[*See also next page*

LONDON.—For New Stone Yard Buildings and Tenements, Hampstead. Mr. O. E. Winter, Borough Engineer, Town Hall, Haverstock Hill, N.W.

	Estimate No.				
	1	2	3	4	
	£	£	£	£	£
D. R. Paterson	1,269	3,276	8,759	10,185	23,490
Johnson & Son	1,108	2,948	8,572	9,270	21,900
C. R. Price	1,182	2,820	7,837	8,564	20,403
Sabey & Son	1,189	2,825	7,640	8,736	20,390
W. J. King	1,170	2,806	7,753	8,550	20,279
Wall & Co.	1,147	2,761	7,700	8,483	20,091
Kellett & Sons	1,048	2,592	7,495	8,734	19,869
G. Neal	1,158	2,627	7,358	8,386	19,529
Gough & Co.	1,160	2,640	7,420	8,264	19,484
Oldrey & Sons	1,151	2,660	7,360	8,126	19,297
H. L. Holloway	1,171	2,572	7,130	8,100	18,973
Patman & Fotheringham	1,083	2,585	7,140	7,945	18,753
Thomas & Edge	1,085	2,413	7,104	8,081	18,683
Leslie & Co.	1,125	2,458	7,046	7,706	18,336
Chessum & Sons	1,072	2,446	6,960	7,750	18,228
Dearing & Sons	1,015	2,488	6,978	7,722	18,203
J. Parsons	1,020	2,526	6,855	7,777	18,178
J. Appleby & Sons	1,000	2,416	6,882	7,868	18,166
*H. Knight & Son, Tottenham..	1,017	2,391	6,699	7,622	17,729
J. Fergusson & Co.	543	2,455	6,960	7,649	17,607
S. E. Moss & Co.	1,300	2,312	6,298	7,176	17,086
Borough Engineer's Estimate ...	1,312	2,540	7,350	8,001	19,204

* Recommended for acceptance.

SALTBURN.—For the erection of Wesleyan church with tower and spire. Messrs. Garside & Pennington, architects, &c., Pontefract and Castleford. Quantities by the architect;—

T. E. Tuyden	£8,750	0	0
Stephen Coates	8,470	0	0
Watt Bros.	8,222	12	1
A. Moore	8,079	0	0
R. Harland	8,073	0	0
H. Harwood	8,057	0	0
W. S. Feaney	7,972	13	0
W. A. King	7,759	16	7
Allison Bros.	7,750	0	0
J. & R. Ridsdale	£7,727	14	4
Geo. M. Rudge	7,687	0	0
Allen & Son	7,447	0	0
Thos. Godfrey	7,400	0	0
Thos. Dickinson, & Son, West Hartlepool*	6,023	0	0

SEDBERGH.—For the erection of bank premises, for the Lancaster Banking Co., Ltd. Mr. J. Parkinson, architect, 67, Church-street, Lancaster. Quantities by the architect:—

Masonry, Slating and Plastering.

Brassington Bros. and Corney, Sedbergh*, £1,261.

Joinery.

John Dent, Sedbergh*, £471.

Plumbing, &c.

R. B. Abbott, Morcambe*, £167 18 4.

SEVENOAKS.—For the construction of sewerage works (2 miles). Kensing, for the Rural District Council. Mr. Thos. Hennell, engineer, 6, Delahay-street, Westminster:—

G. G. Rayner, Croydon, £1,239*.

[Twenty-four tenders were received.]

WORTHING (Norfolk).—For the erection of an iron bridge for the Mitford and Launditch Rural District Councils. Mr. E. J. Silcock, engineer, King-street, King's Lynn:—

Dodman & Co.	£839	0	0
J. W. Collins	756	0	0
Barnes & Pye	742	0	0
J. Springall	729	10	0
T. H. Blyth, Foulsham*	£694	9	6
Rogers & Wood	658	0	0

Thompson & Co. (for ironwork only), £382.

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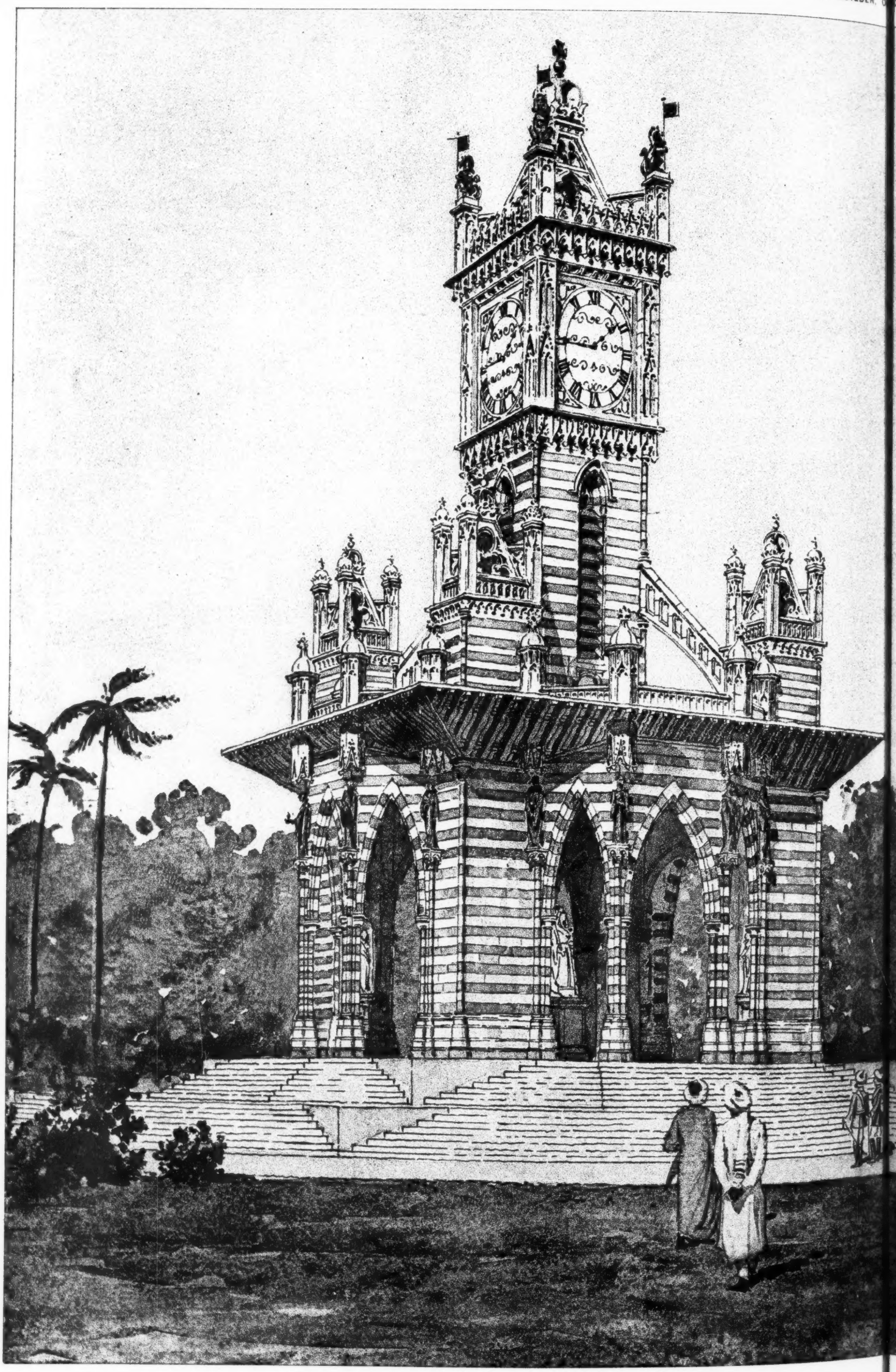
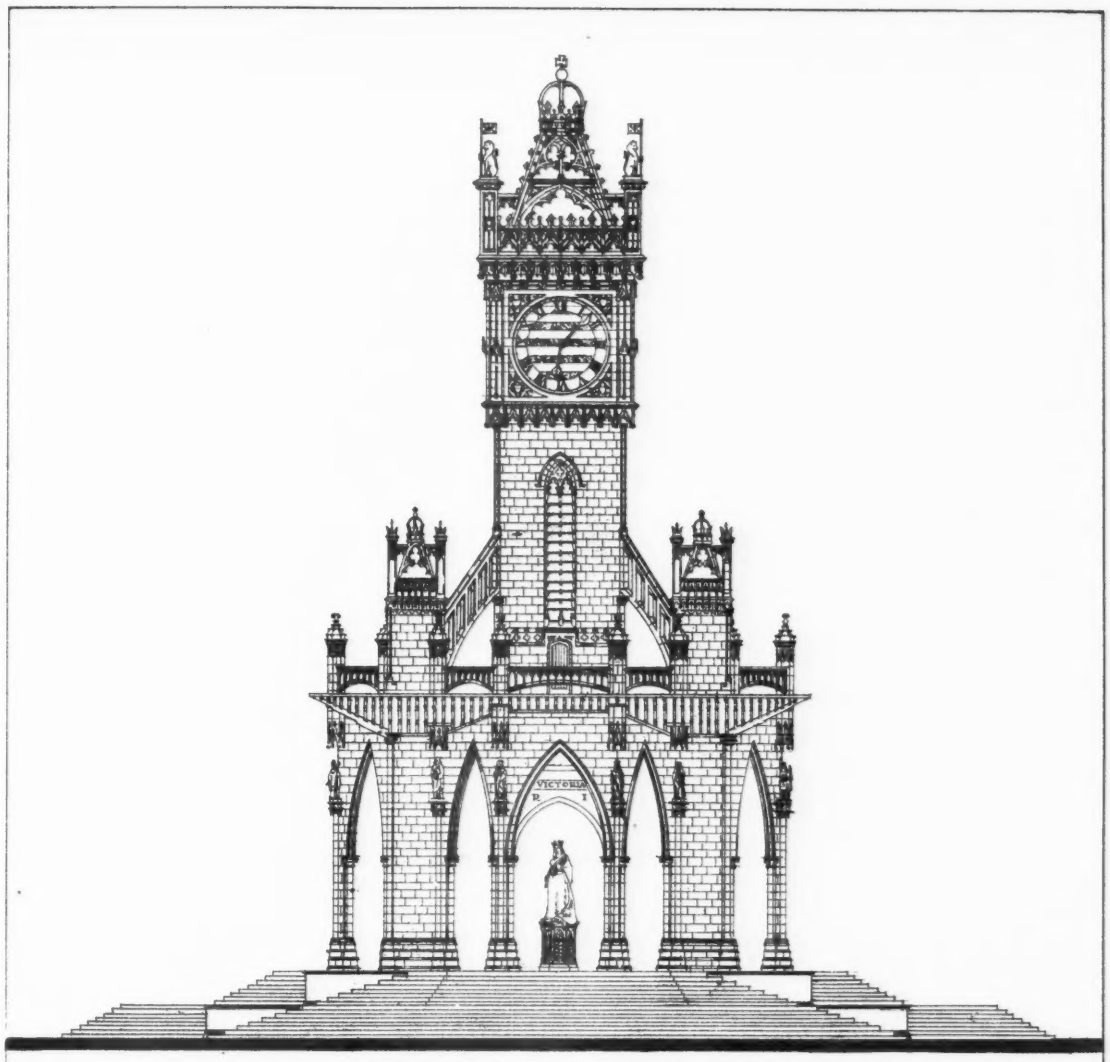


COMPETITION DESIGN FOR QUEEN VICTORIA ME ORIAL.



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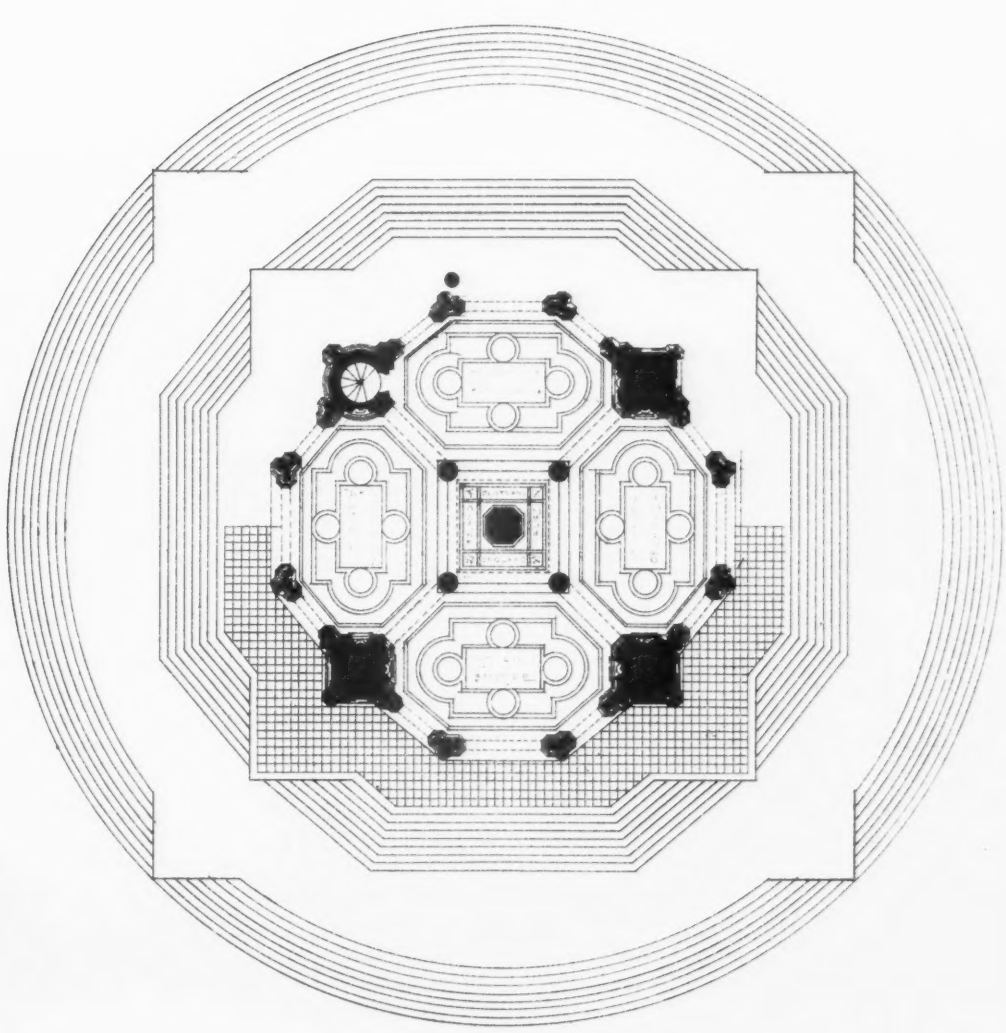

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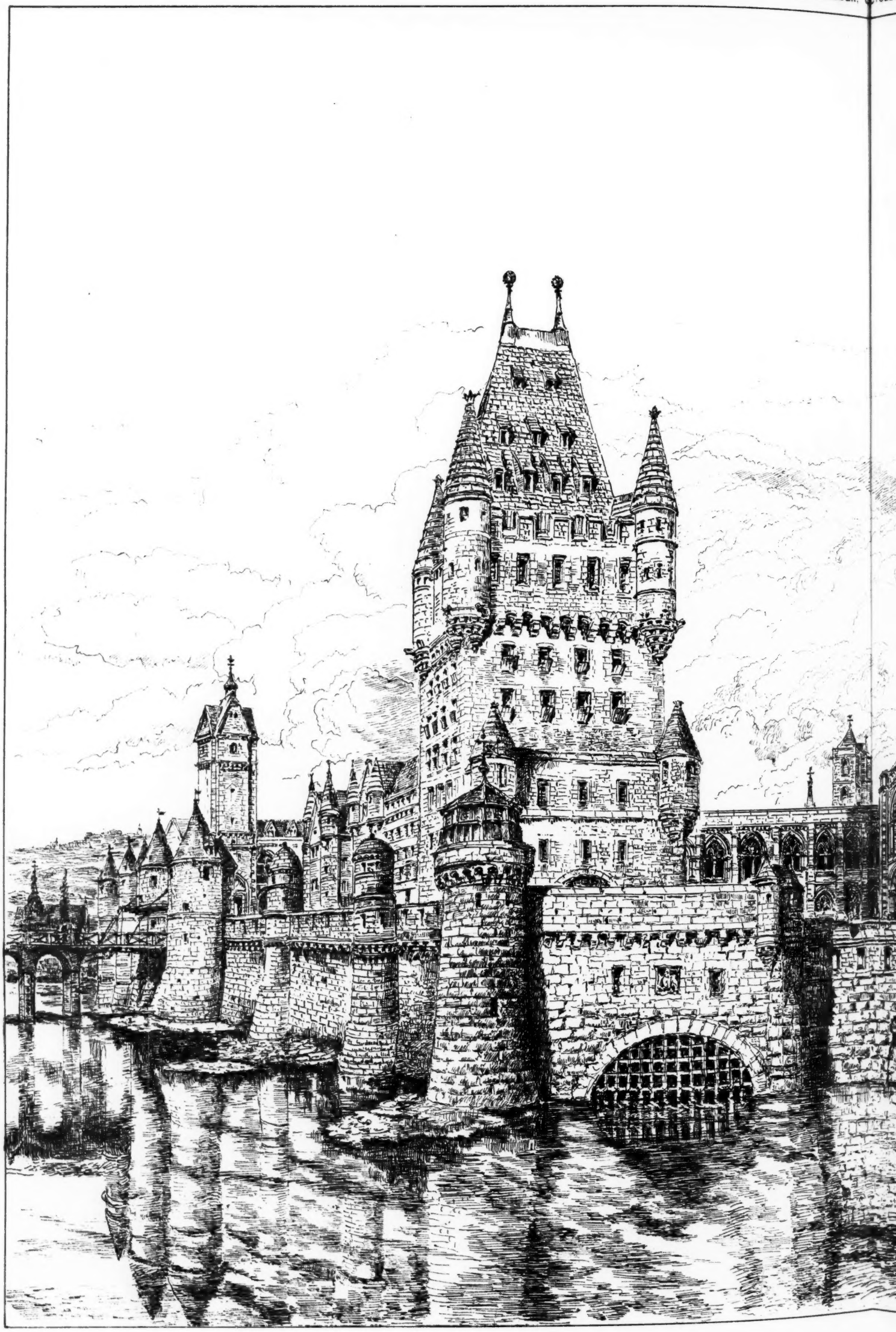
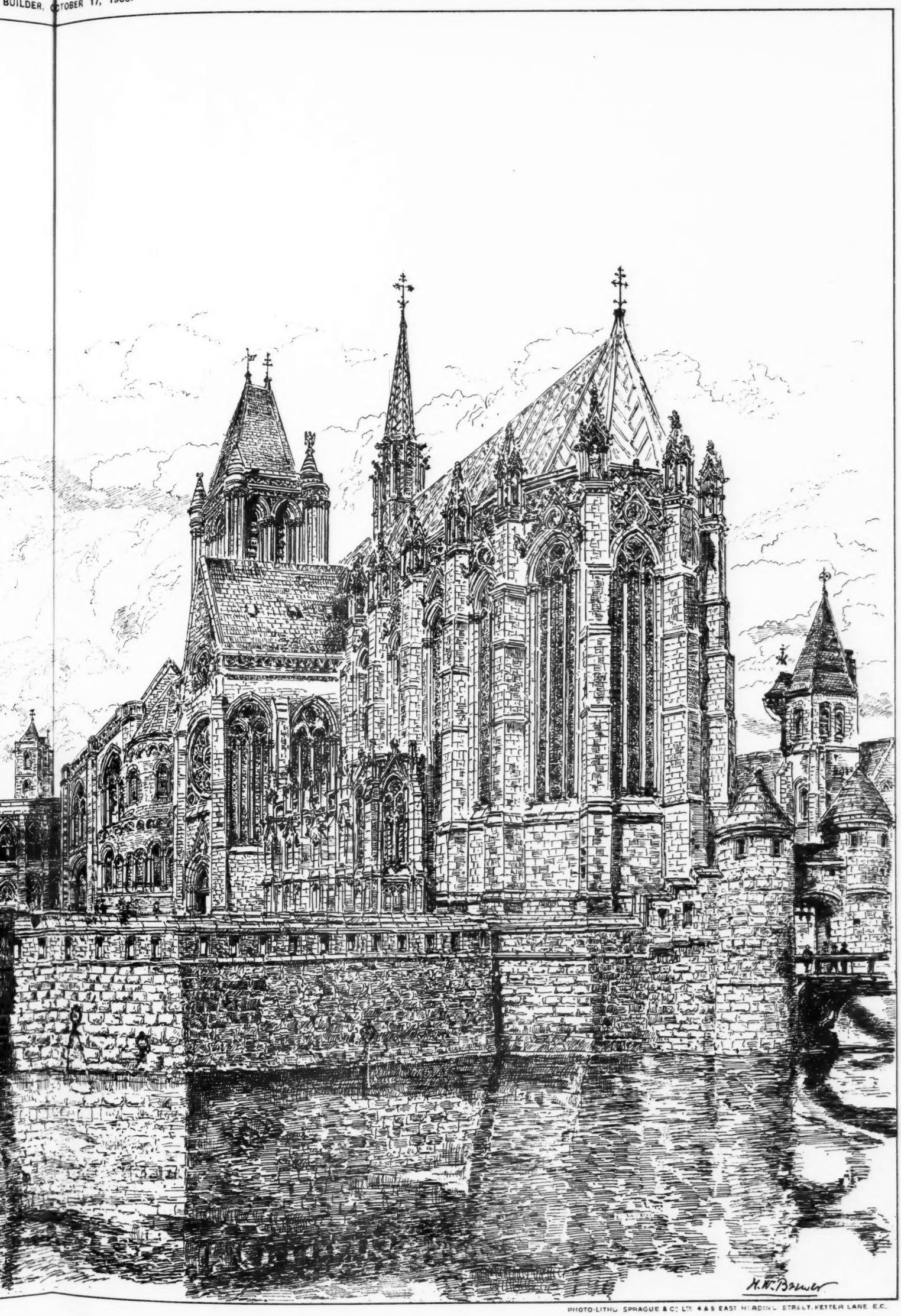


THE "TEMPLE," PARIS: SCENE OF THE IMPRISONMENT

FROM A DRAWING BY THE LAT



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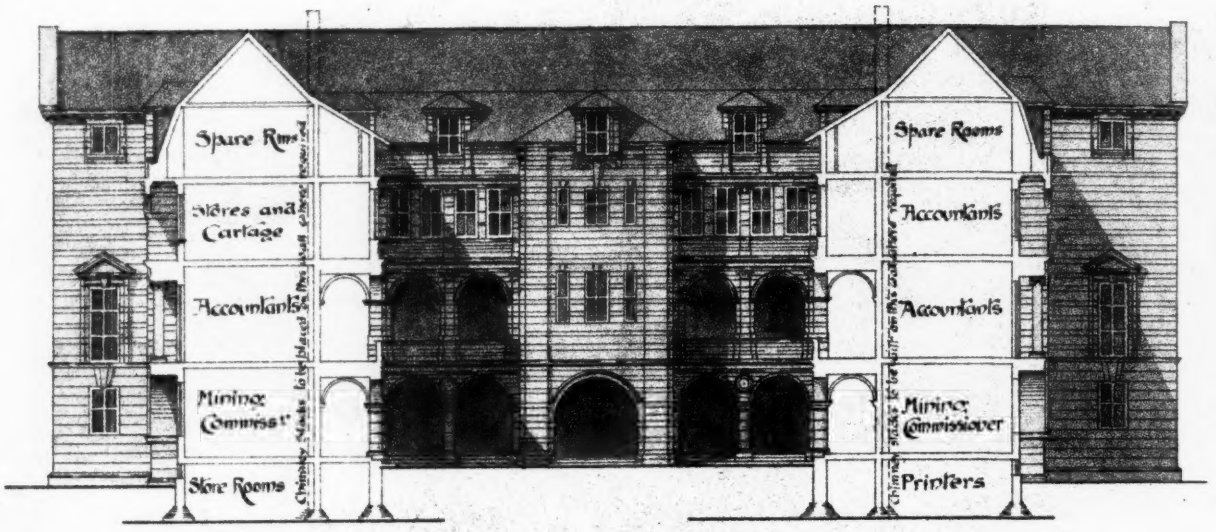

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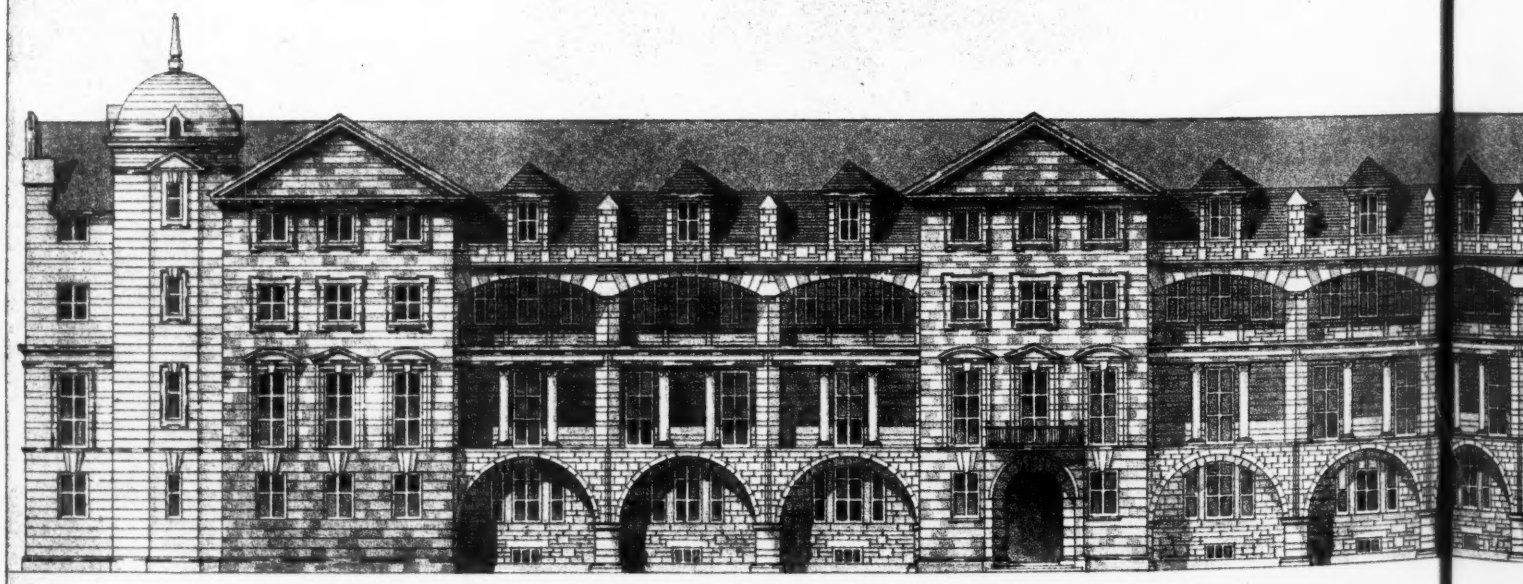

NORTH ELEVATION

Scale of 10 5 0 10 20 30 40 50 60 70 80 90

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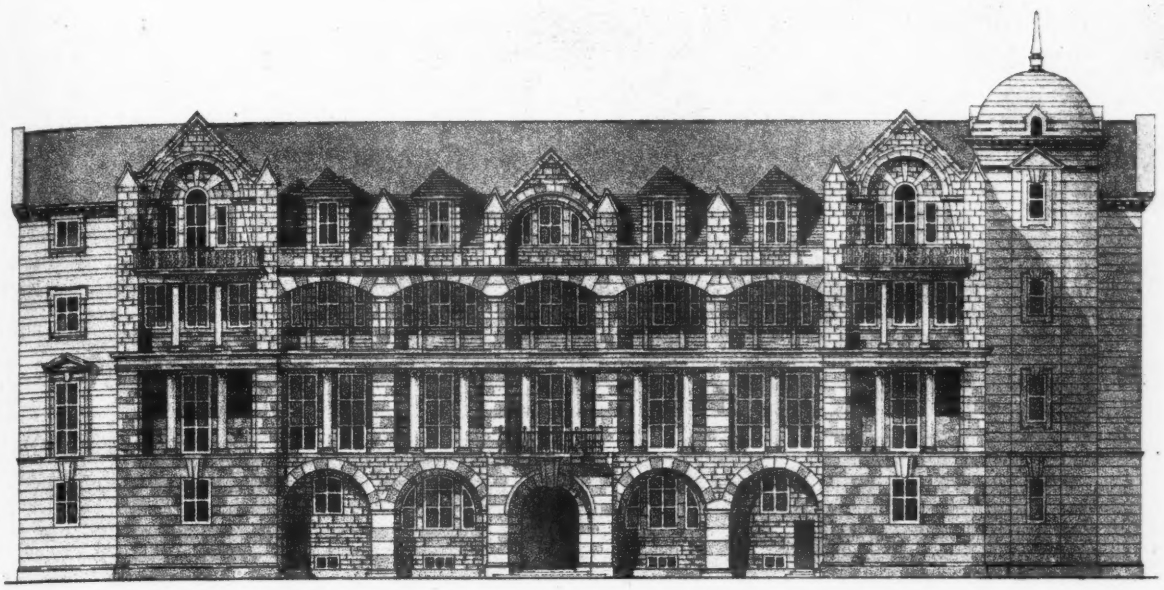

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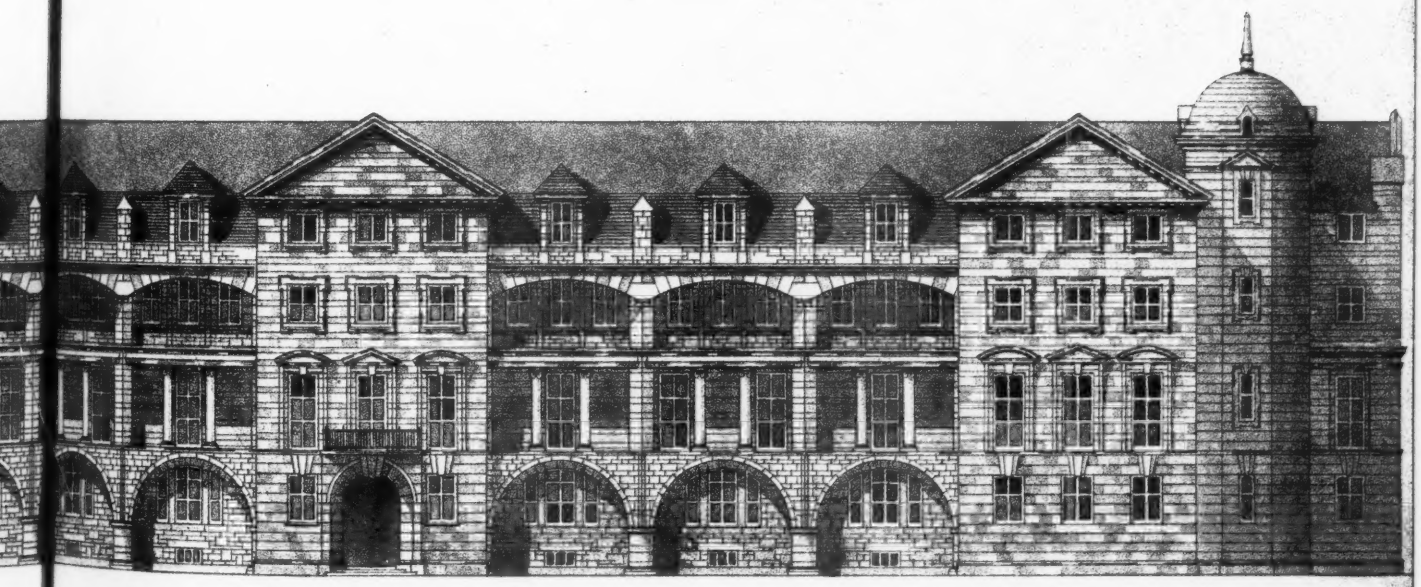

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December 1901.

200 feet

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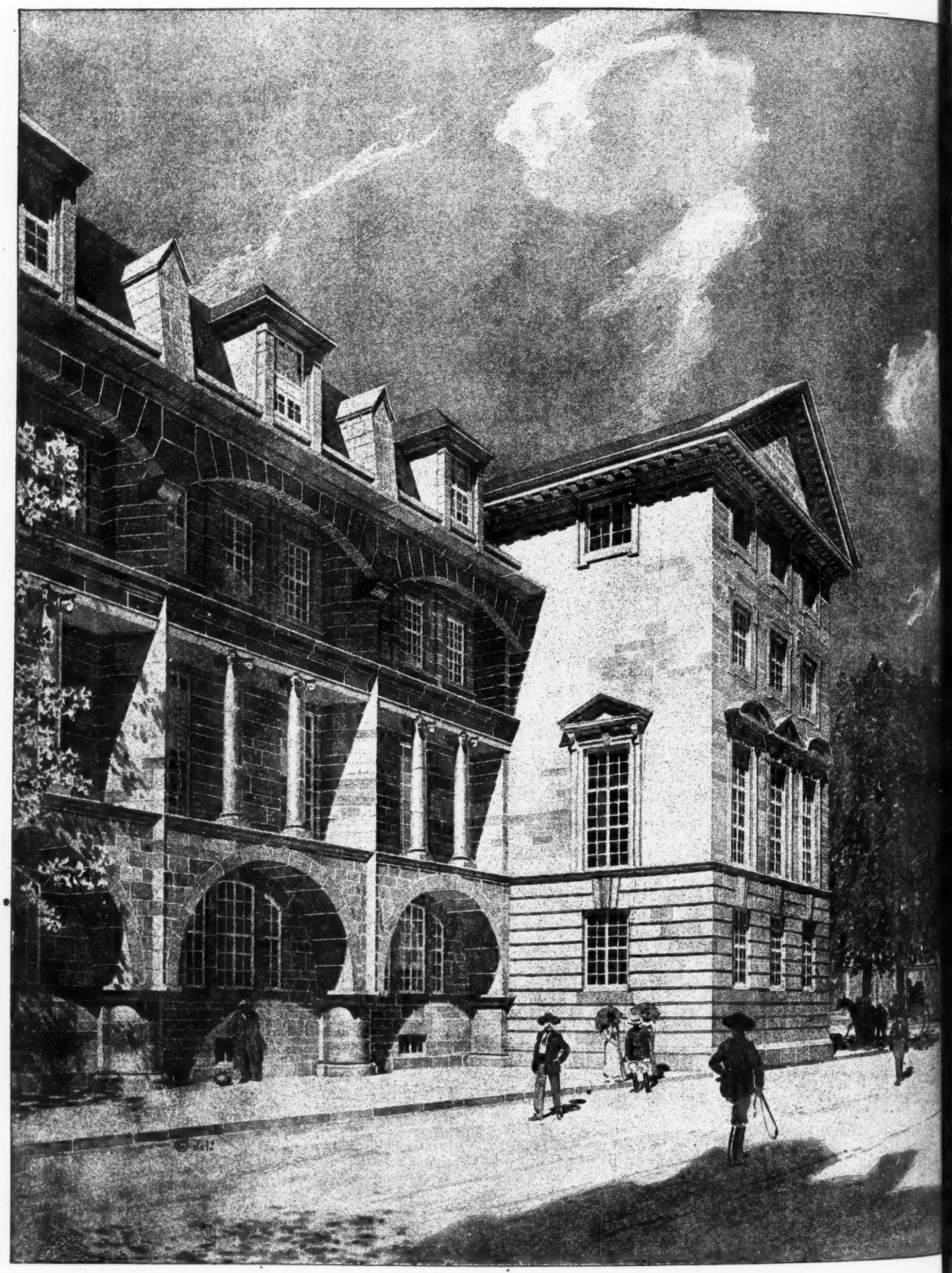

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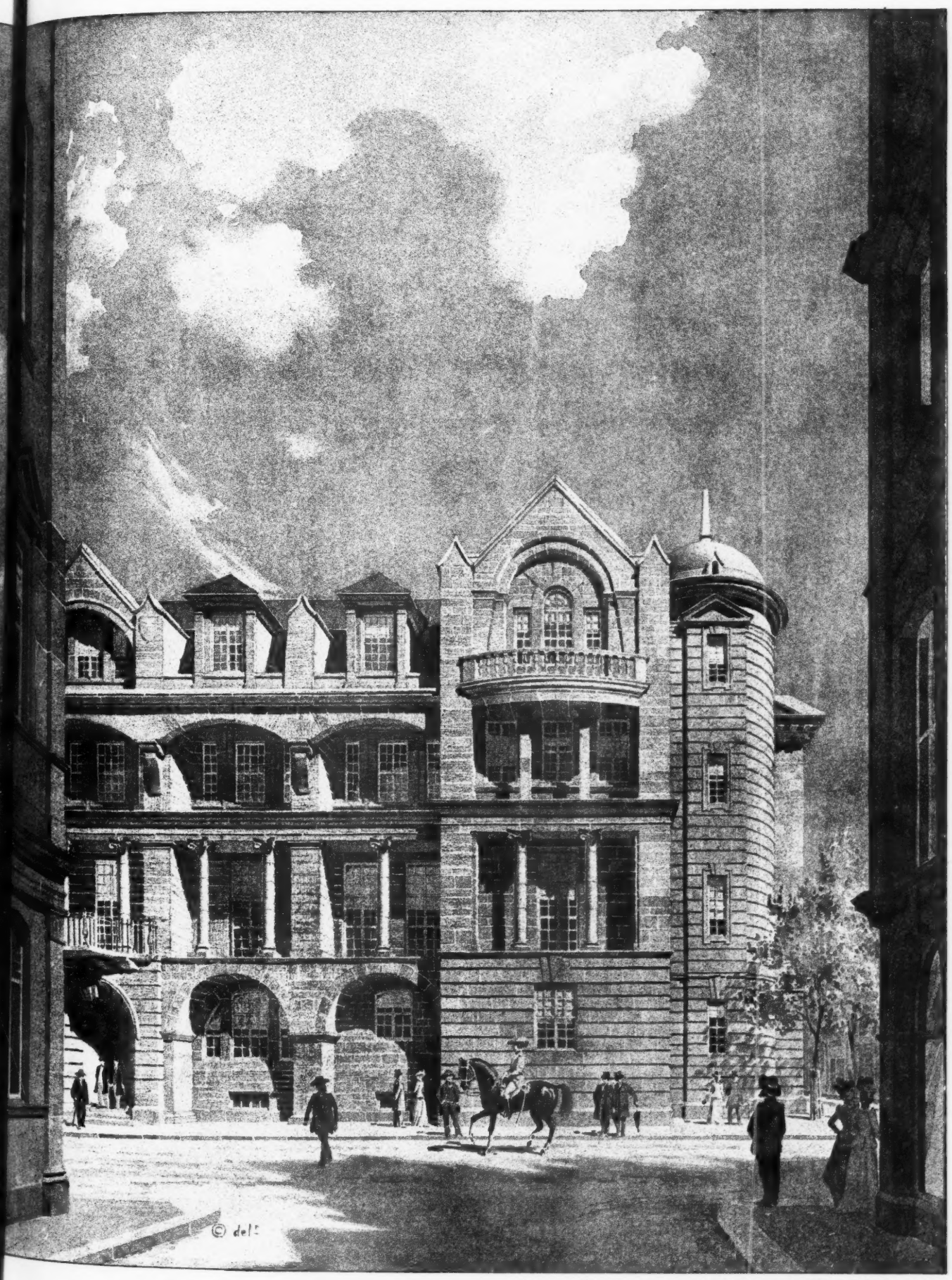

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NESE ERIOR VIEWS.—Mr. Halsey Ricardo, Architect.